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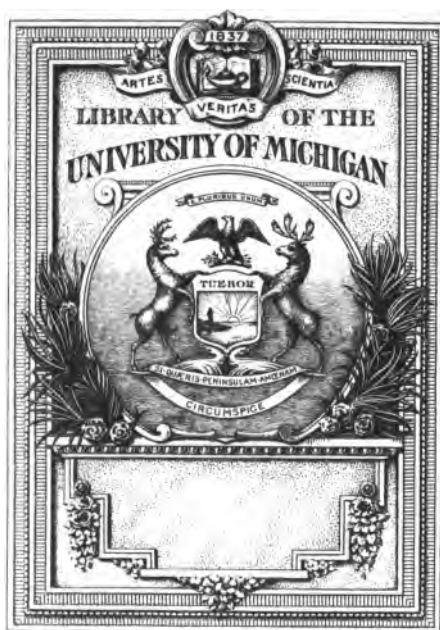
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THE JOURNAL OF  
**Balneology and Climatology**

*Being the Quarterly Journal of the British Balneological  
and Climatological Society*



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BRITISH BALNEOLOGICAL AND CLIMATOLOGICAL  
SOCIETY.

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PRESIDENTIAL ADDRESS.<sup>1</sup>

BY J. IVOR MURRAY, M.D., F.R.C.S.ED., J.P. (SCARBOROUGH.)

---

GENTLEMEN,—It is my duty, as it is my pleasure, in the first instance to thank you for conferring upon me the highest honour in your gift by placing me in this chair. I assure you that it shall be my earnest endeavour to justify your choice, but I must trust to your indulgence to my shortcomings. He who should have filled this place has gone over to the majority, and we all regret that we miss the ripe judgment and experience of Dr. Coghill. His lengthened connection with the systematic treatment of tuberculosis would have afforded us much assistance at this time especially, when the subject occupies such a large share of our thoughts. I knew him well many years ago, and had the pleasure of entertaining him when he first went out to China.

I follow the typical "Spa Physician"—may I not say the typical President of such a Society as ours—one who has contributed so largely to its success during the past, that I feel somewhat timid in succeeding him ; but I am sure that I can depend upon the assistance and counsel of my predecessor.

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<sup>1</sup> Delivered before the British Balneological and Climatological Society, October 31, 1898.



## A RETROSPECT AND A FORECAST.

Gentlemen, representatives of our profession, for the most part in the prime of life, still fighting in its ranks, you may well expect to live to witness the marvellous victory to be achieved in the near future over ignorance and disease, towards which achievement you will to some extent contribute. We of the older generation can only look back amazed at the changes in theory and practice which have occurred during the past half century. Anyone like myself who has been actively engaged in practice during fifty-five years, taking a retrospective survey, must have his thoughts especially directed to two points, viz., the change in the type of disease, and, secondly, the enormous improvement in the means of treating it which has taken place. Let me take as an example of the first, pneumonia, which was certainly of a more sthenic character than it now is, and probably required, or, at all events, received, much more active antiphlogistic treatment than we are in the habit of bestowing on it.

Bleeding at the arm was then the almost universal treatment in the majority of diseases, and many persons were regularly "blooded" twice a year. The astonishing thing to note is that physicians did not realise that they often carried this phlebotomy beyond reason—even to a fatal result. I well remember a huge volume written by a celebrated Edinburgh physician, in which he recorded his experience in many cases in hospital practice, one of which vividly impressed itself upon my mind at the commencement of my professional career. His treatment in the case of a young girl mainly consisted of bleeding at the arm morning and evening, followed after each venesection by black-draughts for at least a week. The last entry after his remarkable depletion was to the effect that the "patient sat up in bed, expressed herself as feeling much better, fell back and died," gravely recorded without apparently any idea as to the real cause of death. You will easily understand that I was so impressed by this and similar cases as to readily become a convert to the opposite school, so that I can only remember two occasions in my practice on which I opened a vein, thereby saving the life of the patient undoubtedly in the one case, if not in both. That bleeding has been somewhat unde-

servedly neglected is now generally admitted, but this neglect was a necessary result of the extreme to which it was pushed in former times. The seton and blistering were other forms of violent treatment in common use. The former has justly been relegated to the limbo of neglect, and the latter is much less recklessly employed. Men of the present generation can scarcely realise what was meant by the heroic treatment of former days, or the unnecessary suffering to which even young children were exposed. I have a lively recollection of the pain and discomfort of having to wear a seton for six months for the cure of an attack of pneumonia.

The black-draught and other nauseous mixtures were in universal use instead of the elegant preparations of the present day, and calomel and other powerful drugs were employed much too indiscriminately. Some of you may know the story of how Sir Walter Scott, being taken ill at a country village, sent for the local practitioner, who, on presenting himself, proved to be a former footman of Sir Walter's; this was in the days before registration. Sir Walter, in great surprise, said: "John, are you not afraid of poisoning your patients?" "Oh, na," was the reply, "I stick to the twa semples, the calomel and the laudanum."

No doubt the homœopathists have done much to direct attention to the wholesale administration of powerful drugs, and taught physicians to trust more to the *vis medicatrix naturæ*, aided by careful attention to diet and regimen; but this change came only gradually, and the old ideas died very hardly. I had an illustration some thirty years ago, when making my morning visits to the Government Civil Hospital at Hong Kong, of how slowly this change was recognised. The house-surgeon was a Chinaman, with a European education and qualification. On asking him as to the treatment he was pursuing in a case of pneumonia, which he had diagnosed correctly, he said that he was blistering and giving tartar emetic, as laid down by Dr. Christison, under whom he had studied, and it was with the greatest difficulty I could persuade him to employ a more rational plan; he, Chinaman-like, adhering to the course he had first learnt, without observing the change in the type of the disease.

It now appears almost incredible that grave operations were performed without the use of anæsthetics, and yet I can look back to the time when these were unknown, and have witnessed many major operations without the patients uttering a groan, or, if so, only when the sutures were being inserted. My first acquaintance with chloroform was on board of a man-o'-war in the Shanghai river, soon after its introduction by my old master, Sir James Simpson. A monkey had got its tail injured, and it was decided to put the animal under the influence of chloroform, and amputate the offending member. I was invited to be present, and shall not easily forget the scene. The patient took the anæsthetic kindly, and the operation was at once performed; the part removed being left beside it. When Jacko recovered, he manifested the greatest interest and astonishment at the result, and assured himself in the most amusing manner that the severed portion had actually belonged to him. During the Crimean War we were not encouraged to use chloroform, the consequence being that many of the operations were performed without it, at the cost of much unnecessary suffering. What surgeon would now undertake even a comparatively minor operation without having recourse to one of the various means by which pain is annulled?

Following closely upon chloroform and the other anæsthetics the hypodermic needle came into use. I have in my possession one of the original syringes given to me by my late friend, Dr. Alexander Wood, who requested me to report on its use in China. It is very different from the beautiful little instruments supplied to us at the present day. In the first case in which I employed it, it appeared to fulfil the most sanguine claims of its inventor; it was a case of facial neuralgia of long standing, which was cured by a single injection of morphia, a success which I have not met with since. The value of the hypodermic administration of various drugs has since been fully established and continues to increase in usefulness. Unfortunately its employment has become too popular and its indiscriminate use by the laity is much to be regretted, and even makes some old hands doubt whether the frightful condition to which women, especially, are reduced by the self-administration of narcotics be not an evil ex-

ceeding all the benefits derived from its legitimate employment. It is full time that the Legislature should devise some means by which unfortunate morphio-maniacs would be prevented obtaining morphia and other narcotics without a separate prescription for each application.

The next great improvement to which I shall refer, which may be considered of even greater importance than the introduction of anæsthetics, is that use of various antiseptics, which has revolutionised the whole science of surgery, and laid the foundation of new treatment both in medicine and surgery. Like all innovations this was not readily received by the bulk of the profession, and as lately as 1884 my friend, one of the surgeons at the Hôtel Dieu, in Paris, took me round his wards and tried to impress upon me that his success was quite as great by using a weak solution of alcohol in dressing wounds as was obtained by others with carbolic acid and other powerful antiseptics. Still, it was surprising how much could be accomplished before their introduction. I can recall two unusual cases which occurred within a month of each other—they were almost identical in character, the abdomen in both cases having been ripped up from the pubes to the ensiform cartilage with a sailor's knife. The first case was this—a Chinaman recovering from a long illness had offended his fellow lodger by his persistent groans. The latter promised himself vengeance as soon as the patient was able to be out. The second case occurred in the gaol in Hong Kong; the European prisoners had been paraded for my inspection, one man whistled very low, but sufficient to annoy the man next to him, and refusing to cease, was attacked with the result I have described, almost immediately before my arrival. In the former case, with the assistance of the turnkeys, I was able to replace the organs, none of which had fortunately been injured, and suture the wound with silver wire, without any antiseptic precautions, which were, indeed, then unknown. Both cases made a perfect recovery, the Chinaman, indeed, appearing in court within the month to prosecute his assailant, although, at first, the prognosis was so bad that the supposed dying man's deposition was taken in each case.

What did we of the older generation do before the introduc-

tion of the clinical thermometer? Nowadays one would be perfectly helpless without it, for the slight variation it indicates between perfect health, and, for instance, obscure incipient tubercular disease, when a persistent slight rise occurs, leads to the search for and detection of the lesion; or who has not scanned its changes with grave anxiety in fevers and other acute cases, and felt the sudden relief from the mental strain when the first sign of improvement is marked by it? Yet it is not so many years since its introduction. I am inclined to believe that we were necessarily compelled to educate our sense of touch and other special senses to a higher degree than is now necessary, having so many more aids at our command.

Stethoscopes also have been greatly improved and come into universal use. The binaural, which was first brought to my notice by my late friend, Sir Andrew Clark, which I then thought I should never do without, has been superseded by a still greater help, especially to those who are no longer endowed with the acute hearing of their earlier life. I refer to the phonendoscope, an instrument which is not so generally prized as it might be, as by its aid a preliminary examination can be made without disturbing the patient's dress—a no slight recommendation. I have no doubt it will be still further improved. Again, the sphygmograph comes to our aid, and might advantageously be in more general use, as it affords a more perfect record of the condition of the circulatory system than any written description we can introduce into our case books, and is now so perfected as to be easily used. In a small box one can have the record of cases extending over many years, a single glance at which recalls the actual condition of matters at the time to which the record refers. The balneological physician, to whose care a patient is apt to return after long intervals of time, appreciates this ready means of reference.

The microscope is no longer the almost useless instrument it was to the active practitioner in my early days, or even when I taught its use to the students of the class of physiology in the University of Edinburgh. Where would be the whole science of bacteriology without the improved instrument now brought within the means of everyone? Since bacteriology, antitoxins,

the proposed extirpation of anopheles, inoculation of immunised animal serum, and extracts of various glandular substances have been introduced, it would almost appear as if the practice of medicine had begun a new era. And it must ever be so. It is, and should be, our aim to discover new means of alleviating human suffering and extending the limit of human life, although we may be conscious that he who fifty years hence looks back to the present day may well consider our lack of knowledge with the same surprise as we do that of our predecessors.

When I commenced practice any medical man who used galvanism in the treatment of disease was looked upon by his brethren with great suspicion, and I am bound to confess that there really has been a vast amount of quackery connected with its use ; but when employed by the surgeon himself, and not left to the half-educated so-called experts to carry out its systematic use, wonderful results are obtained in suitable cases, as I experienced in the early days when I had abundant time at my disposal. The X-rays, a result of its more scientific study, have recently added a new sense to the surgeon's powers.

What shall I say of the vast improvement in sanitary science, and how by its means the average mortality has been reduced by nearly one half in my time ; and yet this science may be considered as in only its infancy, and if public bodies will support our health officers sufficiently, will be guided by their advice, will provide more sanitary dwellings for the working classes, and, above all, educate the mass of the people to appreciate the advantage which will accrue to them by obedience to the laws of nature, we may expect still greater results. I regret, however, to have to note the disastrous retrograde movement made by our authorities in reference to the Contagious Diseases Acts, as affecting our sailors and soldiers, the markedly beneficial operation of which I superintended for many years in China.

I must not omit, in this rapid retrospect, to refer to the introduction of trained nurses, and of the great assistance which a thoroughly trained nurse, who knows her proper province, can give alike to physician and surgeon. All praise is due to Miss Nightingale, who led the van in this direction during the Crimean War and subsequently ; but I cannot withhold mention

of the devoted services of the Irish Lady Abbess, Mrs. Bridgeman and her sisters, who preceded Miss Nightingale at Balaclava, and of whom there has been no general recognition.

The profession has also been opened to ladies during my time, and I fully sympathise with them in the battle they had to fight to obtain the privilege of qualification. After all, this was no new departure, for in olden time women were often skilled both in medicine and surgery, of which Rebecca, in Scott's "*Ivanhoe*," is a well-known example. No doubt this has proved a useful innovation in many cases, but they can never displace the sterner sex, as comparatively few are fitted for the work either physically or mentally.

Englishmen have always prided themselves on their personal cleanliness ; still a great change has taken place in this respect. Fifty years ago a bathroom with hot and cold water was a rarity, and even little children had to wander down from their nursery several stories to the basement, to get their bath in a wooden washing-tub. Who would now dream of living in a house without a bathroom ?

And now we come to a point which concerns us more closely. The great revival which has taken place in the value ascribed to the study of balneology and climatology, more especially of our own country, to which our Society may fairly claim to have contributed in no slight degree, is a matter for congratulation. It is for us to press our views more and more on our professional brethren, and induce them to educate their public in the belief that not only can much be achieved by hygiene, by baths, by mineral waters, and by the selection of the most suitable health resort in each case, but that in the majority of cases this can be achieved as effectually in our own country as by exiling our patients to foreign parts, and this with all the home comforts so imperfectly understood abroad, but which make all the difference to the invalid and to the chances of his recovery. Let us each, then, not hesitate to bring before the notice of our Society, and even insist on, the advantages possessed by our own special health resort, so that our brethren may become acquainted with the treasures which Nature has so abundantly supplied in various parts of the kingdom, and of which, in many cases, they were

ignorant. It is only in this way that the prejudice which still exists in the minds of the great mass of our countrymen can be overcome, and that they can be taught to believe that even in the matter of health resorts they need not go to Germany. The attention which has recently been directed to the prevention of tuberculosis by rational out-of-door treatment is a case in point, and one which it is peculiarly the province of this Society to study and encourage, and I fully anticipate that we shall have many papers on the subject brought before us during the present session. Thus, gentlemen, shall the Spa physician impress his tubercular patient with hope that though—

“Pining and pale before,  
Beholding him, plucks comfort from his looks.”

And so with our prophylactics and means of treatment, of which balneology is not the least important, we may anticipate a time in the near future when human life, vastly extended, shall be only limited by natural decay or accident.

Our profession is a religion with a grand future, and you are its priesthood.

---

## THE DUTIES OF MEDICAL MEN IN THE PUBLIC LIFE OF HEALTH RESORTS.<sup>1</sup>

BY CECIL LATTER, M.D.CANTAB.

---

THE subject of this paper was chosen because it has been in my mind for some months past, for the reason that I was asked in August to stand as a candidate for my ward in the town of Folkestone, and that I have since been elected.

Many gentlemen here have no doubt been approached for a similar purpose, and have carefully weighed the *pros* and *cons* before giving their decision whether to stand or to decline that honour. I will, therefore, briefly enumerate the various

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<sup>1</sup> Read at a meeting of the British Balneological and Climatological Society, December 7, 1899.



factors which present themselves to any medical man who is in such a position. Firstly, the arguments against standing.

(1) The publicity, and the occasion which such publicity gives to the censorious to hint that one's motive is not public spirit, but self-advertisement.

This, I think, is the first and most weighty consideration. There can be no doubt that it deters many men from coming forward to serve their fellow-townsmen.

(2) The fear that one's fellow-councillors belong to a class whose habits of thought, speech, and action are different to one's own. I do not wish to mishandle a delicate topic, but it is well known to us all that the *personnel* of many of our municipal governing bodies does not commend itself to our minds. Our intimate personal friends are not usually drawn from the town councils of our district. In some towns—there is no need, of course, to name them—the members of the town council are the laughing-stock of the neighbourhood.

Such matters weigh very heavily in giving a decision, and it is no light thing to commit oneself to a course which may involve constant association with individuals whose morals are dubious and whose manners are exasperating in the extreme. I think, then, that we may place this class feeling (of which we cannot divest ourselves) as the second important deterrent.

(3) The time consumed by one who conscientiously does his municipal duties on the council.

(4) The consciousness of one's own ignorance in municipal affairs, a reluctance to plunge into unknown waters, a keen realisation of "the fierce white light that beats upon" one's public actions—in short, the fear that one will make a fool of oneself.

(5) The existence of a medical officer of health, a man holding special qualifications, with special experience of that branch of the profession, and, above all, inured to the difficult task of grappling with the negligences, ignorances, and prejudices which sometimes adorn the intellect of the town councillor.

To these may be added their natural corollaries, such as the certainty that motives will be maligned, utterances misreported, actions misinterpreted; that any election successfully contested

means a defeated rival, who may be a life-long enemy ; that (in small provincial towns) public diversities of opinion usually are synonymous with private animosity.

Added together, these various considerations form a serious total, so serious that, as we know, a doctor who is also a town councillor is not a common object either by the seashore or by the mineral spring.

It is my purpose to show that this state of things should be remedied, and I hope that we may live to see the day when a councillor-doctor at a health resort is the rule rather than the exception, the day when a health resort without a doctor on its town council is held unworthy of its title. Having summarised the deterrents, I will now try to show what are the factors which go towards inducing a doctor to enter public life. They are neither complex nor numerous, they are simply public spirit and self-interest.

Let us analyse the latter first. I do not for one moment wish to advise a doctor to join the town council because it will "pay." But one is bound, though one's motive is unselfish, to consider whether the entry into public life will affect one's professional prospects for good or evil. As a matter of fact, of course every man in his senses would consider this question very carefully, and in a paper such as this, to evade it would be hypocritical. It is, indeed, a *most* important problem. I can contribute but little towards its solution. I venture to ask those here to-night, whose years and experience lend greater weight to their opinion, to dwell upon this when I have finished. My own opinion is of little value, but it is this.

There is no material advantage to be gained by becoming a town councillor. A doctor will not add a penny to his income nor a patient to his practice. Will he gain an indirect advantage ? I think not, for this reason. A doctor who consents to join the town council should do so with the consent and approval of his brethren in the place ; he should be their nominee sent to the council to represent them and to promulgate their collective opinions.

A candidate selected in this way would necessarily be a man whose position and status were already established ; he will not

improve them by being a town councillor. It follows, therefore, that a man who hopes to improve his professional or social standing is *ipso facto* unfit for the post. It must be admitted that the sole advantage to be gained is a sentimental one—that is, the enjoyment to be gained from the faithful discharge of responsible duties and the thought that one's professional brethren have honoured one by their choice of a delegate.

I hope that in the near future no body of medical men practising in a health resort will be content until they have one of their number on the town council, and that the same honour will attach to the doctor whom they have chosen as now attaches to those on the honorary staff of a hospital.

At the risk of wearisome repetition, I will dwell once more upon the importance of a medical councillor being a delegate of the local profession. To my mind, any other basis of candidature would be disastrous. A doctor who was fighting for his own hand might be a fruitful source of all kinds of professional schism, and might use all the power that his position gives him to better himself and to injure his rivals. A doctor nominated in the manner which I suggest need not be so tied hand and foot by his colleagues as to be bereft of any freedom of individual action ; but he ought to be pledged to support those schemes which are, in the opinion of the profession, desirable in the town.

I began the paper by enumerating the points which deterred many men from entering municipal life. Very briefly I propose to meet these objections as far as possible.

(1) The publicity of the election, and, if elected, the prominence given to one's public life generally by the local reports, and the fear that this may look like advertising. Much of the force of this objection is removed if the medical candidate is a nominee of his colleagues. It is they, if any, who will raise the cry of advertising, and they cannot do it if they are themselves responsible for the situation.

Furthermore, a change is coming over this attitude of the professional mind towards the necessity of a doctor's strict retirement from the public gaze. A doctor *must* be a public man whether he likes it or not. He wears a distinctive dress and has a distinctive face, and in the provinces he is, in fact, a public char-

acter. Surely he does not sin against the code of etiquette if he becomes a still more public character for the public good ?

(2) The fear that one's fellow-councillors would be personally distasteful to one is sometimes an exaggeration. I think that it has been found that a doctor is treated with due consideration if he does not intrude upon subjects that he does not understand. As a rule, his opinions on sanitary and hygienic questions are treated with all due deference and respect.

(3) The time consumed by the meetings is, I am afraid, a point which argument does not touch. Much time is consumed, but it must be borne in mind that the main work of the council is done on committees, and, if possible, a doctor should serve on the Sanitary Committee alone. If this can be arranged most men can find time to do their public duty without neglect of private practice.

The final objection is the fear of making a fool of oneself over a business to which one is a stranger. Every one in the council was a novice once, and remember that your main usefulness is on sanitary matters, where you are the master and they the pupils.

Lastly, why is a medical councillor necessary when there is a medical officer of health ? And will not the one be in an awkward relation to the other ?

To answer this we must consider that the medical officer of health is a paid servant of the corporation, who (in many instances) have power to dismiss him at short notice.

In itself this position of dependence cries aloud for the help that would be afforded by the unbiassed support of a doctor on the council. Then, consider the nature of the intercourse between the medical officer of health and the council. It is formal. Reports are presented, motions are passed, amendments voted on, and so on.

A medical councillor can render valuable aid to the medical officer of health by the fact that he is officially on more familiar terms with the other councillors. He can, in the absence of the medical officer of health, explain in a conversational way the gist of the medical officer's schemes and proposals ; he can correct the misapprehension of some unimportant phrase or word—those little misapprehensions which for lack of a guide have so often

wrecked important schemes of reform. In fact, he can be the middleman between the lay council and the expert medical officer of health.

I am now at the end of the paper, and yet I have not mentioned any of the things that the doctor should do once he is on the council. I do not intend to do so ; they are so numerous, so obvious, and so diverse in divers places as to make the subject out of place.

My object has been to try and persuade those of our members who have hitherto taken no part in municipal affairs to follow the example of those of us who have. All I would ask them is to refrain from quoting Æsop's fable—of the fox who lost his tail in a trap and tried to persuade the others to do the same.

#### DISCUSSION.

Dr. SYMES THOMPSON said he was glad of the opportunity of congratulating Dr. Latter on having brought before the Fellows a subject which, he thought, was new to the Society, but was certainly one well worthy of its consideration, consisting, as it did, of men representing the different health resorts of the country. Dr. Latter had limited his subject to the public municipal duties of medical men, and no doubt it was a wise limitation ; but in the discussion he thought they might well be allowed to extend their thoughts a little further, and enter upon the question as to the duties of medical men as individual citizens as well. He thought they must admit—though medical men, by their lives and experiences, were apparently very reluctant to admit it—that the fact of being doctors did not justify them in withholding themselves from their political or municipal duties, or from their duties as men. He could not but think that sometimes the extremely engrossing character of their professional studies during student life, and the absorbing character of professional duties when in practice, made it exceedingly difficult for them to fulfil those public duties which should fall upon every citizen. That being the case, while it justified them in admitting that there was some excuse for a medical man in withholding himself from those duties, could not, he

thought, be held as a sufficient justification for it. Nor did he think that the argument which Dr. Latter had so dexterously sketched sufficed either. He (Dr. Thompson) did not think the fact that a medical man would put himself into prominence by associating himself with any public work should justify him in failing to fulfil his duties. Of course, it was the case that a certain, happily small, number of medical men desired to push themselves into prominence by every means, whether fair or foul; and it required very great caution on the part of a medical man to choose a right course in these respects. He thought they were called upon to encourage their professional brethren to recognise their duties, and to fulfil those duties—political, social, municipal, and religious. They must not refrain from exercising the franchise, and their broad education probably enabled them to take a wider and more comprehensive view, free from those petty minor distinctions which separated their neighbours. So that their duty in political life, and it would be the same in municipal life, would probably tend to make them peacemakers, rather than to emphasise the points of divergence between opposite views. He thought he might be allowed, as provost of the Guild of St. Luke, to say it had been a great satisfaction to him, in going about the country, to find that medical men not only recognised their responsibilities as physicians to the souls and bodies of their patients, but were often the right hand of the clergy in parochial organisations, as churchwardens, &c. He thought it right to encourage them in such action, and the more so because the medical mind was probably free from narrowing doctrinal trammels, and was therefore able to exercise a wide and helpful influence.

He now wished to say merely a word or two about the particular municipal duties with which Dr. Latter's paper dealt. At a time when district councils and town councils and county councils had been brought into prominence, and legislation had tended to make them so much more important than heretofore, he thought it was wise that they, as a society, should take those matters into consideration, even more than before. Surely the fact of being a medical man made it incumbent upon

him to associate himself with those branches of work which concerned sanitation and hygiene. Such things were known to the medical mind, and were unknown to the non-medical ; therefore, it was grievous if such knowledge were withheld from the parish, district, or corporation.

In that connection came Dr. Latter's valuable suggestion that medical men should do this work as the nominees and delegates of their professional brethren. If that could be carried out, it would not only be in itself of value, but would be of very great service in bringing the medical men of the place together for the purpose of selecting a representative. In many country towns there was a lack of harmony among doctors, which would be removed if they were brought together. Therefore, he regarded such a step as a very important preliminary—not, perhaps, an essential one—to making the post of councillor of far greater value in the community. If a medical man went forth as a nominee appointed by his professional brethren, his hands would be much strengthened, and it would make it possible to carry out those sanitary laws which in many corporations are very difficult of accomplishment.

The CHAIRMAN said it was exceedingly interesting to him to come and listen to the paper on the subject of doctors in municipal life, and more so as it had been his lot to enter upon municipal life two or three years ago.

With regard to Dr. Latter's paper, he quite agreed with Dr. Thompson that no doctor should be hindered from coming forward by any considerations such as those which had been alluded to. He thought, as Dr. Thompson had so wisely said, every man had a duty as a citizen to the town in which he resided ; and if he felt, or his professional brethren felt, that he could be of assistance to the town by coming forward and giving some of his energies and experience in the direction of municipal life, he (Dr. Bagshawe) thought that to some extent he was bound to do so. He did not recognise any inducements to a young doctor in becoming a member of a town council ; he thought all those considerations might be left entirely on one side. He could not conceive any way in which it was likely that personal or private advantage would arise to a doctor from joining a muni-

cipal body as a councillor. The idea of advertising, or anything of that sort, was not at all worth consideration. No doubt there was some little misapprehension as to how any man allowed himself to be nominated. There were various ways in which it arose. He supposed most towns had on their councils men who were moved more or less by political considerations; and he could think of several candidates in his own borough who perhaps had been moved more because they had been prominent members of the Radical or Conservative Association to be town councillors than any other consideration he could think of. Still, that was all really beside the mark. He did not think, either, that a doctor need trouble himself in the smallest degree as to the *personnel* of the other councillors with whom he came in contact. On the Hastings Town Council, consisting of forty members, there were all sorts and conditions of men, but they rubbed along together exceedingly well; they were quite courteous, and thoroughly harmonious as far as their personal relations were concerned. Of course, when they came to moot points there was a great divergence of opinion, and sometimes in the heat of debate words were said which were not altogether pleasant, which cut deeply into the flesh, but they were soon rubbed off, and were thought of no more.

As to the further reasons why a man should become a town councillor, he recognised beyond all others the reasons which Dr. Latter had given them. In his (Dr. Bagshawe's) own case, he again and again refused to allow himself to be nominated for Hastings. Perhaps he ought not to have done so, but should have risen to citizenship sooner than he did; but he declined, until an appeal came from a body of the doctors of his town. It was really their doing that he assumed the aldermanship and mayoralty two years ago. He had not regretted it, though he was free to confess that any man who undertook the duty of alderman or mayor, or town councillor, saddled himself with an enormous amount of work, an amount which they would perhaps hardly realise. He had thought it might be interesting to show the Fellows of the Society the bill-of-fare which Hastings town councillors had to look in the face. The forty members had split themselves into a great variety of committees. Besides



the full council, which met once a fortnight, there were twenty-one committees on every conceivable subject. The principal committees numbered six or seven—the Watch Committee (he did not agree with Dr. Latter that there was only one committee of importance to a doctor) ; the Sanitary Committee (which was, *facile princeps*, the committee for a doctor) ; the Water Committee (which trod hard upon the Sanitary in medical importance) ; the Roads Committee (which partly managed the drains) ; the Parks and Gardens Committee ; the Lunacy Committee ; and the Electric Lighting and the Education Committees. The amount of work requiring to be done would appal most men, and he might mention that the Mayor of last year, who had no other calls upon his time, attended 337 meetings in the course of the year on municipal matters. His (Dr. Bagshawe's) own attendances were about half that number. He made it a point not to interfere in the administration of justice, but got it done for him. The afternoons of about four days per week were occupied by municipal matters. Still, in spite of all that, a man might cut down his work so as to carry on municipal life without robbing himself seriously of his time. Of course the Sanitary Committee was the most important. They entered at Hastings upon direct house drainage, but the Medical Officer of Health and Inspectors did their work so well that practically it was only in moot and difficult points that questions came before the committee. In Hastings, they had a very important scheme on hand, which would occupy a great deal of time, namely, a main drainage scheme of a portion of the borough, a work more interesting to the medical man than to any other branch of citizens.

He had alluded to the question of water supply. Some twenty years ago the water supply of Hastings was under consideration, and then the East Sussex Medical Society—a very harmonious body of fifty members—took up the water supply question, and it was largely due to them that the matter was pushed on during the last twenty years ; and it was due to the action of four or five doctors that the water supply of the town had reached its present state. Other questions they were also pushing on, so as to make the town a worthy competitor of other watering places, such as roads, esplanades, parks, and

bands, things interesting to a doctor to a certain extent in common with non-professional classes. Of course, the desire of residents was to make their particular place as perfect as it could be, and therefore the tendency would be on the side of extravagance somewhat. But here the doctor came in with his own function, for not only did he realise that the place must advance and be as perfect as possible, but he also was in intimate touch with the residents—the lodging-house keepers—and he knew where the shoe pinched. If the rates became too heavy for these people, the doctor was one of the first to know, to be able to feel the financial and material pulse of the community, and to know when to stop. He earnestly hoped that no man who had the time at his disposal would be deterred from becoming a member of the council of any town with which he might be associated. He fully and freely acknowledged that it was a great tax upon a man, and perhaps the busiest doctors were not the men to undertake such duties ; but there was always a certain number of men of ability, and very often of power, who were willing to render service to the town, and who had a margin of spare time which enabled them to do so. On the Hastings Council five of the forty members were doctors, and he hoped such would be the case on other councils also, and that doctors generally would feel that they had a right function to perform in representing their towns on the local councils.

Dr. LEONARD WILLIAMS said he was very much interested in Dr. Latter's paper, partly because he had been through the mill himself. He had been a member of a district council, and sat on it for a considerable time. It appeared that those who preceded him had spoken from one point of view, namely, of the town which was already more than half made. His own experience was different. When he first went to the place of which he was speaking, the drainage was largely of bricks, and the water supply was mainly from shallow wells. Very reluctantly at first, he was induced to take the matter up, and to go on the Council, with the view of getting proper drainage and a good water supply. After six years hard fighting he rejoiced to say they succeeded in both endeavours. But it was an experience he would not recommend to any medical man going to a place for

the first time. Dr. Latter had said that Folkestone was a by-word for discord in the Town Council ; might he, Dr. Williams, also say that Folkestone was—to misuse a word—a by-word for a unanimity of good feeling amongst medical men ? He (Dr. Latter) laid great stress upon the desirability of the medical man going on to the town council as a delegate from his medical brethren. All he (the speaker) had to say was, that if it was possible at Folkestone and St. Leonards, they were about the only places in the three kingdoms where it was possible. Dr. Symes Thompson had suggested that medical men should meet together and select their delegate for the town council. If they waited for that, they would wait indeed ; the meeting would not take place, and if it did, a delegate would never be selected. The medical man, whoever he might be, who wished to take an interest in the place and to do his duty as a citizen to the rest of the population—and, he might frankly say, to himself, because sanitary conditions attracted visitors, and kept them when they came—he would have to do it with his own hand ; he would get no assistance from his medical brethren, least of all, in nine cases out of ten, from the Medical Officer of Health. It was his (Dr. Williams') very bitter experience that he had to carry all the sanitary reforms in the place of which he spoke, in the teeth of the Medical Officer of Health. That officer was in favour of the existing drainage, and was in favour of shallow wells. If there was one thing crying aloud for reform, it was the position which a Medical Officer of Health occupied, at any rate in urban and rural sanitary districts. For a medical man to be a rural sanitary officer, or to be an urban sanitary officer and to carry on general practice in the same place and at the same time, was too great a temptation for ninety-nine out of every hundred. Such an officer in an urban district should not be allowed to practice ; there was no reason why he should not have under his control a whole parliamentary district, at a salary which would make him independent of private practice. In the locality he was speaking of, it would have been no hardship for a large area to combine and pay the Medical Officer of Health a sufficient salary to make him independent of such temptations.

Dr. WARD-HUMPHREYS said the very interesting and very

concise paper which Dr. Latter had read had afforded a great amount of instruction to many of his hearers, and seemed likely to produce a very good discussion. Several points dealt with by Dr. Latter he (Dr. Ward-Humphreys) found himself in very complete sympathy with ; but to one point, mentioned by Dr. Leonard Williams, he wished to take the strongest possible objection to. He would deal with it later.

It had been generally admitted by the gentlemen who had spoken that it was the duty of a medical man, in any town, to take an active interest in the municipal and civil work of the community. He (Dr. Ward-Humphreys) would go a little further, and urge him, if his political opinions were on the right side, to take an active part in political work. But it must be admitted that the medical profession, as a whole, had not, up to the present time, taken exactly its right position—the position to which it was entitled, both by reason of the education of its individual members, by its numerical strength as a whole, and by its numerical strength in most towns. It was extremely refreshing to hear that in Folkestone and in Hastings the medical profession was so united, and that they positively swarmed and trod upon one another's heels to get on to the town council. That was an example which might be followed with great advantage in other towns. The paper was entitled, "The Duties of Medical Men in the *Public Life of Health Resorts*," and that was a particular aspect of the question which had not been dealt with that evening. In a health resort the medical man occupied a singularly strong position. The success of the town, as a commercial community, would very often depend very largely upon the ability of the medical men who happened to settle there ; and he thought that was very generally recognised both by the residential classes and by the commercial classes. That, in itself, afforded a reason why a medical man should take an active part in the work of that town, and also a reason for hoping he might, without any great difficulty, get upon the governing body. When it was recognised by the commercial classes in a town that a doctor was likely to be of very great use to them commercially, they were very willing, indeed, if they got a suitable candidate, to put him into a position where his influence could be best used.

In any health resort, whether inland or seaside, medical men had done, and could do, a very great deal. They knew Fellows of this Society who had done great work for towns—Dr. Freeman, of Bath ; Dr. Myrtle, of Harrogate ; the Chairman of that meeting, at Hastings ; Dr. Williams, at Sidmouth ; were names which occurred to one as examples of good work in their respective localities.

With regard to what Dr. Latter said about the complaint that a medical man attempting public life was advertising himself, that objection, he thought, would be and was urged, and urged by no one so strongly as by the other medical men in the town. He fully agreed with Dr. Leonard Williams that the jealousy, backbiting, and evil feeling did not come from one's political opponents, nor from the defeated candidate, but was most likely to arise from one's medical brethren, who had neither the inclination, nor very often the ability, to do the work which they declined to allow others who desired it to do. For that reason—and he spoke with an experience of seven years of public life—he strongly advised any medical man who intended to go into public life to be extremely careful not to tie his hands by accepting the position of delegate from the other medical men of the town. Such a course was absolutely certain to land him in difficulties. He did not forget that those medical men were professional brethren, but, speaking generally and broadly, his experience was that on the whole, medical men in the towns had not given themselves to public matters ; they did not understand public life, they had a very moderate knowledge of the political necessities which must arise in every town council, and their advice was not unlikely to be awkward for the successful government of the town.

His own experience with regard to professional brethren was very similar to that of Dr. Leonard Williams. One of his chief reasons for going on the governing body of the town in which he was living was a violent collision which happened with the then Medical Officer of Health, after he (Dr. Ward-Humphreys) had been in the town but two months. That distinguished gentleman had studied sanitary science in the early fifties, and he desired to visit all his (Dr. Ward-Humphreys') patients who

were suffering from infectious disease. It became necessary for him to go on the town council, and then the Medical Officer of Health left. He did not think one's professional brethren had yet risen to the view which had been so freely expressed that evening—that medical men should be present, and in numbers, upon the governing bodies of towns.

Regarding the *personnel* of town councils, he had been upon one town council as chairman of committees and as a councillor ; he had also been an official of another corporation in the North of England ; and he must say that the common idea of a town councillor was a very wrong one, and absolutely exaggerated. Town councillors were mostly human beings, and were beset by most of the failings possessed by other human beings. He could say, however, with very great gratitude that the treatment one received—perhaps as a medical man and because of being a medical man—was treatment which one would be very glad to receive from other members of one's profession. He took the strongest objection to the average town councillor being said to have dubious morals and exasperating manners. [Dr. Latter : I did not say that—I did not say that was the character of the *average* town councillor.] Well, he took entire and absolute objection to the description which Dr. Latter had given.

With regard to the ignorance of medical men on public affairs being a reason why they should not be councillors ; if they were ignorant they should endeavour to learn ; but he did not for a moment admit that those who were interested in such matters were likely to be ignorant at all. He did not think it was well for a medical man, in taking to public life, to thrust himself upon a sanitary committee of the town. They generally had their own sanitary adviser, and he had avoided going on that committee because he thought it was well advised by the Medical Officer of Health. There were other matters to which the doctor could equally well devote attention ; for instance, lighting, which had to do with public morals and with town advertisement. Then there was public library business, technical education, and other matters of immense public importance. The water question was another in which medical men should certainly take the lead. Again, in inland watering places, where

there were mineral-water wells, it was the duty of the medical man to do his very utmost to advertise his town. Of course he might, in that way, advertise himself, which was an unfortunate occurrence. They all desired not to advertise themselves, and for that reason a great many men adopted a very shabby attire. In many provincial towns, doctors considered that the best way of showing their humility was to drive about in dilapidated carriages, there being no cheaper way of getting a reputation for mental ability than by wearing dirty linen. Dr. Myrtle, of Harrogate, had done very good work in that town, and the baths were a monument to him. Dr. Freeman, of Bath, had done similar work, and these cases showed what a medical man could do in promoting and advertising the good of his town. Then with regard to police matters; there again the medical man could take the lead. The Chairman mentioned that he had always avoided sitting upon the magisterial bench, the wisdom of which he (Dr. Ward-Humphreys) ventured to question. There were a great many cases where he thought the presence of a medical man on the bench would be of great benefit to the bench, to the public and to the prisoner in the dock. Town improvement was another matter in which, especially in health resorts, the doctor could be of the very greatest value; the very existence of this Society proved that. Some of the most interesting and valuable papers read by the Fellows of the Society had been, if they pleased, advertisements of the towns; but the Society was started to advertise English health resorts. Surely it was quite right that a medical man, who had the knowledge and the time and the ability to advertise the place fairly and honestly—because there was such a thing as dishonest advertising—should be encouraged.

It had been said by Dr. Latter, in his paper, that a medical man on a council would not improve his position. But he (Dr. Ward-Humphreys) was not so sure about that. If he went on a town council, or if he took up any position—for instance, if he became a medical man, and was not fit for a doctor, it was quite certain that, sooner or later, he would make a fool of himself, and a victim of his patient. Similarly, if he became a member of a council, and was not fitted for it, he would make a fool of himself, and injure himself very much.

That brought him back to the point about a medical man being the delegate of the doctors in the place. If the medical men in any district were going to meet together and elect someone to represent them on the town council, the probability was that they would look out for some man who had had a distinguished career in the schools. His experience was that it did not invariably follow that because a man was a distinguished member of the College of Physicians or of the College of Surgeons, or because he was an able lecturer, he was likely to be a success on a town council. Neither did it follow that what the Chairman had suggested was proved, namely, that it was not the busy man who went on to the town council. But it was the busy man who did the work, and it was the busiest medical man who probably made the best town councillor.

To come back once more to his point, he thought there were many of them who were very inferior in qualifications and took a very humble position in any medical meeting, who perhaps would be better fitted to cope with gentlemen of those desperate deeds and violent language in a town council. Therefore it seemed to him it must rest with the man himself as to whether or not he was likely to be a success on a town council.

In conclusion, he did not think any man should be deterred by the fear of losing a patient, or by the fear of making a lifelong enemy of his opponent :—

“ Who has no enemies shall have no friends ;  
A decent chap, men say : and there the matter ends.”

In political fights and in the fights of public life he did not think that the hard blows which were given and received were likely to be taken in any personal sense. Some of his firmest friends had been men with whom, in public life, he had had the most desperate duels ; and he thought that if a man showed himself honest and competent in dealing with matters which came under his control, he would gain the respect of even those he had defeated in the fight. He hoped the result of the very interesting paper and the discussion which had followed it would be that a greater number of members of the profession would be induced to enter public life, for which many of them were eminently fitted.



Dr. SNAPE (London) said his only justification for speaking upon the subject under discussion was that he believed some learned doctor once wrote a paper which he entitled "London as a Health Resort." The question now before them was one in which he took a great personal interest, and he had on several occasions tried to stir up the medical profession on it. He need not tell a body of medical men what the results of his efforts were. The results of stirring up the medical profession were, as usual, absolutely *nil*. He was in a peculiar position, because he represented a ward which contained within its area perhaps more doctors than any other ward in the country; the ward he represented contained Wimpole Street, Harley Street, and all the larger portion of that district vulgarly known as "the Valley of the Shadow of Death." He thought the people who required most education on matters of local and municipal interest were the doctors themselves. The doctor appeared to consider that the sole duty of a vestryman was to clear out his dustbin with proper regularity. His (Dr. Snape's) friends when they met him asked, "Why have you not cleared out my dustbin?" If he (Dr. Snape) pointed out that that was not the sole duty of a vestryman, they would express the utmost surprise; and if he told them of other duties they would be appalled to think that there could be so much to do. The vestry on which he sat consisted of 120 members, and they did an enormous amount of talking but a remarkably small amount of business. He disagreed with the reader of the paper as to the cause which prevented medical men appearing on public bodies. A man came and grumbled to an amazing extent about the ill-doings of the vestry. One said to him in reply, "There is an election coming on, have yourself nominated." He would reply, "My dear fellow, I have not the time." That meant really, after all, that he was too lazy. The real reason doctors would not go on public bodies was not that they were so frightfully busy, but that they were too lazy to take the necessary trouble. He was very keen upon the subject that the profession was too apt to pose in the matter of being so frightfully busy; of course, he could only speak from his own personal experience. He had no doubt that the majority of gentlemen in the room suffered from a

surfeit of patients, but most men whom he met probably did not make enough in a year to pay their house rent ; they were simply ornamental members of the profession, and would make very excellent councilmen, but nothing would induce them to come on. He felt very strongly that though this discussion had done good, nothing would urge medical men to take part in public affairs and stir them up out of the sense of laziness which kept them from the duties they ought to perform.

The CHAIRMAN said he might perhaps be allowed to say another word or two before asking the reader of the paper to respond. He really must say a word in reference to Dr. Ward-Humphreys' remarks. He thought Dr. Humphreys misunderstood him when he spoke of a doctor being the delegate of the profession. In no sense did he mean that the doctors of the place met together and picked out one of their number to act on the town council. It was not so in the least degree ; but rather that one's personal friends met one and said, " You must go on the council if you possibly can." When a number of doctors did that, it constituted a stronger reason for allowing one's self to be nominated than if the doctors met together and elected one of their number to represent them. The latter course he would not advocate, but when a doctor felt that it was the general opinion among his friends—of whom he had a great many—that he could do some useful work, that was a strong reason why he should try to put his shoulder to the wheel.

Again, Dr. Ward-Humphreys alluded to the question of the magisterial bench. After all, he thought a Mayor, who was also a doctor, must know what was his limit of power and capacity to do good, and he surely could elect to exclude some portions of the work which naturally would come upon him. It must be remembered that he was due to sit on every single committee which took place throughout the week and throughout the whole year, and he must find out for himself which of these he could best and most safely avoid in the interests of the public.

Dr. CECIL LATTEr, in replying on the discussion, said the Chairman had very kindly, and in a better manner than he could hope to do, answered several points which had been raised. What happened in the Chairman's case happened also in his own.

The invitation to consent to nomination for the town council was an informal affair. It was true, as he had said, that in Folkestone the medical men worked well together. He did not mean that they were absolutely unanimous ; it might have been that they could not get anybody else ; but the fact remained that he had the warm support of the doctors, who work cordially with him. With regard to the number of committees a doctor should sit on, Dr. Ward-Humphreys could hit very hard ; but had had practice on public bodies, and he (Dr. Latter) would not venture to cope with him ; but he rather reminded Dr. Latter of Lord Brougham, the great lawyer, of whom it was said that he knew a little of everything and what a pity he did not know a little law. On sanitary matters a doctor's advice could be of service, and when that doctor happened to be on good terms with the Medical Officer of Health and it did not become incumbent upon him, in the public interest, to kick the Medical Officer of Health out of the district, he thought a doctor could be of use on the sanitary committee. That appeared to be the opinion in Folkestone, where the Medical Officer of Health was a most excellent man. With regard to other committees which had been mentioned, such as the water supply and so on, at Folkestone, unfortunately, these were private companies and were not under municipal control.

He would not take up longer in replying, but would thank them for the way in which the paper had been received. It was a very slight and desultory paper, but it had given rise to a very good discussion, and that was all it was meant to do.

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### CLIMATE OF SIDMOUTH.<sup>1</sup>

BY GEORGE A. LEON, M.A., M.D. (SIDMOUTH.)

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MR. PRESIDENT AND GENTLEMEN,—I had at first some misgivings in reading a paper on the qualifications of a small south Devon town as a winter health resort. Afterwards, in looking through the old numbers of our journal, I find no paper has been brought before this Society giving the conditions to be expected

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<sup>1</sup> Read at a meeting of the British Balneological and Climatological Society, December 7, 1899.

during the winter in our most sheltered and favoured spots in the south-west of England.

I have chosen Sidmouth, a town of about 4,000 inhabitants to speak about, because it is the town with which I am best acquainted, and also, more especially, because it possesses the advantage of a very complete set of baths. It has also the advantage of being the watering place on the south Devon coast the nearest to London by train, a journey of  $4\frac{1}{2}$  hours.

I will not detain you long with geographical details, but will merely state that Sidmouth is situated towards the eastern end of the south Devon coast, between the towns of Seaton to the east and Exmouth to the west. It is situated at the head of a large bay, the arms of which are formed by Portland Bill and Start Point. The town lies on what was once the gravelly bed of a river, at the mouth of a valley six miles long by about two miles broad. The hills on either side of the valley are of red marl, that on the west having a superficial stratum of green sand. These hills forming the boundaries of the valley to the east and west are 500 feet high, to the north they vary from 500 to 800 feet in height. The valley faces the south. In consequence of this natural wind screen of hills, no winds but the south and south-east and south-west blow strongly in the valley. There is a slight col or depression in the range of hills to the north-west which admits the wind from that quarter to a certain part of the valley. With this exception the valley is absolutely sheltered from all cold winds.

Now I will not trouble you with a mass of meteorological statistics, but will simply state a few facts which will speak for themselves. These facts, except as otherwise stated, are taken from the observations of Dr. W. T. Radford, through whose courtesy I have had access to the original records. The instruments have been set up under the superintendence of an officer of the Royal Meteorological Society, 186 feet above the sea, and an officer of that Society pays an annual visit of inspection.

First, with regard to temperature, the main feature is that though the *annual* mean temperature is much the same as at London or Bournemouth, *i.e.*, 49.2 and 49.3 respectively, as quoted from the *Quarterly Journal of the Royal Meteorological*

*Society*, October, 1892, yet there is a very decided difference in the *monthly* means. A study of these brings out the fact that during the *winter* months Sidmouth is on an average 2° warmer than London and 1° warmer than Southbourne (near Bournemouth).

*Table of monthly mean average temperature for ten years, taken from the sources above mentioned.*

	JAN.	FEB.	MARCH.	OCT.	NOV.	DEC.
	Degrees.	Degrees.	Degrees.	Degrees.	Degrees.	Degrees.
Sidmouth ...	40°5	41°0	41°9	50°1	46°3	41°3
Southbourne ...	39°9	40°4	41°6	49°8	45°6	40°2
London ...	38°4	39°3	41°4	48°7	44°3	38°3

It would therefore follow that Sidmouth must be correspondingly cooler than those places during the *summer* months, a conclusion which is amply supported by the following figures taken from the same sources.

	MAY.	JUNE.	JULY.	AUG.	SEPT.
	Degrees.	Degrees.	Degrees.	Degrees.	Degrees.
London ...	53°5	59°3	62°4	61°4	57°3
Southbourne ...	52°1	57°5	60°5	60°4	57
Sidmouth ...	51°5	56°7	59°4	59°3	56°5

To repeat then, the main fact shown is that Sidmouth is warmer in the winter and cooler in the summer than London or Southbourne. Dr. Radford's average monthly means for the twenty years emphasise the same fact ; they are :—

JAN.	FEB.	MARCH.	OCT.	NOV.	DEC.
Degrees. 40°9	Degrees. 42°2	Degrees. 42°7	Degrees. 50°8	Degrees. 45°5	Degrees. 41°4
MAY.	JUNE.	JULY.	AUG.	SEPT.	
Degrees. 50°8	Degrees. 56°7	Degrees. 59°9	Degrees. 60°2	Degrees. 56°8	

The equability of the Sidmouth climate is also an important factor in its suitability as a health resort, that is to say, the winter mean range, *i.e.*, the difference between the coldest and warmest winter months, is less than at Southbourne, Montpellier and Pau. I have here a table extracted from a work by Dr. Leonard Williams which proves this. I will only read the last column, but I have the table here for anyone who is interested in the subject.

	JAN.	FEB.	MARCH.	NOV.	DEC.	DIFFERENCE.
	Degrees.	Degrees.	Degrees.	Degrees.	Degrees.	Degrees.
Sidmouth ...	40·8	41·0	41·9	46·3	41·3	5·5
Southbourne ...	39·9	40·4	41·6	45·6	40·2	5·7
Montpellier ...	42·1	44·8	48·9	50·7	45·7	8·6
Pau ...	41·2	43·6	48·8	47·0	42·8	7·6

There is only one more set of temperature figures with which I will trouble you. As a rule it is the minimum temperatures which are most dangerous for invalids. Briefly the table, compiled from the same sources, shows that Sidmouth's minima are about 1° higher than those of Southbourne and 2° higher than those of London :—

	JAN.	FEB.	OCT.	NOV.	DEC.
	Degrees.	Degrees.	Degrees.	Degrees.	Degrees.
Sidmouth ...	36·2	36·5	44·4	41·7	36·6
Southbourne ...	35·2	35·7	43·4	40·8	35·6
London ...	33·8	34·4	42·3	39·2	33·7

As regards rainfall, the average for the county of Devon is 41·61 in. In Scotland it is about 40 in. (Symons). In Sidmouth the average for the years 1871-90 was 33·68. The reason of this comparatively low rainfall is the fact that the rain is often deposited on the hills around, whilst no rain falls in the valley. One can frequently verify this by personal experience.

Respecting humidity, the mean percentage is given by Dr. Radford as 83°, and this is about the average for Devonshire.

The observations are taken at 9 a.m., which, by the bye, is not exactly the hour when the invalid is abroad. Later in the day the percentage would be lower. A high relative humidity is nearly always found in equable climates, the moisture in the air acting as a medium for the equalisation of temperature.

There are few factors more important for an invalid than sunshine of that all are agreed. At Sidmouth the Jordan Photographic Recorder has been in use since 1890. It was fixed by Dr. George Oliver, one of the Vice-Presidents of this Society. The records are complete by him from February, 1890, to the end of 1893. For the six winter months the total number of hours of bright sunshine at Sidmouth were in

1891	...	...	...	...	564
1892	...	...	...	...	529
1893	...	...	...	...	602

As compared with these figures the south coast average for ten years (1880-1890) was calculated out from the Journal of the Meteorological Society, taking the records of St. Leonards, Brighton, Eastbourne, Southbourne, Ventnor, Rousden, Torquay, and the total number of hours bright sunshine was 474. After the departure of Dr. Oliver the sunshine recorder was not used for some years.

In an article on "Sunshine at Sidmouth," published in the local paper in 1891, Dr. Oliver says: "A glance at the sunshine records (published in the 'Meteorological Record' from 1880-1890) of the Northern and Midland counties—even of country places—will conclusively show the gain in sunshine by resorting during the winter months to the south coast, and more especially the western portion of it. In order to clearly define this gain, I have constructed a northern standard of comparison for the winter months, derived from all the sunshine data hitherto published respecting the following places in the Northern and Midland districts:—Apsley Guise (Bedford), Bennington (Herts.), Buxton (Derby), Blackpool (Lancs.), Bolton (Lancs.), Driffield (Yorks.) Marlborough (Wilts.), Newton Rainey (Cumberland), Strelley (Notts.), and Sutton Coldfield (Warwick). The average which these data provide does not exceed 340 hours of sunshine for the

months from October to March (inclusive) ; while the south coast average for the same period exceeds this amount by 134 hours, and the record under review during the past year shows that Sidmouth enjoyed 202 hours in excess of this northern average. It is easy to adduce even more forcible illustration of the position, such as the winter average of sunshine in the city of London or of Greenwich, the former 160 hours' only, being less than one-third, and the latter (260 hours) only a little more than one-half of the average winter record of the south coast."

To sum up the above data in a few words, the climate of the South Devon coast is not exempt from the ordinary vagaries of an English winter, but the average temperature is higher than elsewhere to the north and east, the rainfall is not excessive, the shelter from keen winds is complete, and there is more visible sunshine.

I have now, and I trust the details given will not be considered excessive, entered into the facts regarding the climate of Sidmouth. It remains for me to point out in what ways such a place can be made especially useful as a health resort, and the class of cases which seem to be most suitable for treatment there. I do this with the greatest diffidence, as there are many in this room whose opinion is of much greater value than my own, but it is precisely to those I would appeal to give their experience and discuss the statements made and to carry out one of the chief objects of this Society in gaining knowledge from the individual experiences of members.

*(1) Cases for which the Nauheim Treatment is Suitable.*

Foreign resorts for Nauheim treatment are closed during the winter months. As regards many, if not most of our Northern and Midland bath resorts in winter, one might use the words of Byron and say we are

"With none who bless us, none whom we can bless,  
This is to be alone ; this, this is solitude!"

It seems then that a well-equipped bath establishment with skilled attendants supplies a distinct want during the winter, and when such an establishment is situated on the sea coast at a most sheltered and favoured spot, it deserves to be more widely known



than it is. The baths are fitted up with all the most modern appliances for hot and cold, fresh and salt water immersion, douche, Aix massage and other baths. The Nauheim baths are given in sea water with chemically produced effervescence. The male and female attendants are well accustomed to give Schott movements and massage. Now I am not going to speak in exaggerated terms of the so-called Nauheim treatment, but certainly one does frequently get wonderful results when such bath treatment is combined with a rational habit of life in the patient. Personally, I cannot give my adherence to the theory recently propounded that the beneficial results are due to the inhalation of carbonic acid gas. In ordering a bath the patient is recommended to avoid inspiring the gas as much as possible, and the attendant is instructed, in suitable cases, not to allow the patient to sit upright, but to lie recumbent so that the ascending gas comes in contact with the body and limbs without entering the mouth and nose. The good effects are, I think, due to the cutaneous stimulation set up mechanically and, perhaps, also chemically by the carbon dioxide gas. The cases which seem to me to derive most benefit from the Nauheim baths are :—

(a) Young subjects with early valvular disease after acute rheumatism. In these cases the baths tend to eliminate the rheumatic poison. At the same time regulated exercises with out-of-door life speedily establish good and, as far as one can judge, permanent compensation.

(b) Cases of heart neurosis, such as have been so ably described by Dr. Sansom in a lecture on "Nervous Diseases of the Heart," before the Medical Society, and again by the same gentleman in this year's Hunterian lecture. As a rule these are post-influenzal. Most frequently they are tachycardiac. Occasionally there is cardiac irregularity, occasionally pseudo-anginal pains. These cases, as a rule, do excellently with the Nauheim baths and exercises. Any amusement or occupation which checks introspection is most useful. Out-of-door life away from business or professional cares is essential. Insomnia is not an uncommon symptom in these cases. The moist atmosphere of Devonshire certainly favours sleep.

(c) Cases of heart dilatation (not fatty) after overwork,

whether the strain be excessive on the physical powers or on the nervous system, do well with bath treatment and its accessories. Cases of fatty heart in my experience do not do so well.

(d) Cases of combined cardiac disease with renal failure, whether from back-pressure or from actual disease of the parenchyma, are most favourably influenced by the comparatively mild climate of Sidmouth, with or without bath treatment. I will very shortly quote a case of the former type placed under my care by Dr. Sansom, by whose kind permission I mention it :—

Mrs. C., aged 59, reached Sidmouth, July 27, 1898. Heart much dilated; maximum impulse  $1\frac{1}{2}$  in. outside nipple line. Mitral systolic bruit. Right heart cavities also considerably dilated and hypertrophied. Pulse 120, feeble. Vomiting several times a day. Both legs œdematous. Urine, 20 ozs. a day; specific gravity 1,030, loaded with urates, one-fifth albumen. The patient rapidly improved with careful dieting and diuretics.

On August 28 commenced with ten Schott exercises, and the pulse rate was soon reduced to 85 to 90. Heart area dulness much reduced. Apex beat still much distributed, but maximum impulse only  $\frac{1}{2}$  in. outside nipple line.

On September 3 patient took the first bath, and I have a table here of the pulse rate taken before, in the middle, and fifteen minutes after the bath, for a month. And as it illustrates what is the general effect of the bath in reducing tachycardia, I will read it. The pulse rate was taken by a trained nurse who was exceedingly sceptical about the bath treatment, and certainly would not have been inclined to exaggerate any slowing :—

*Bath Pulse Rate.*

Date.					Before.	Middle.	15 minutes after.
September	3	...	...	...	99	87	86
"	5	...	...	...	103	84	86
"	6	...	...	...	96	92	88
"	9	...	...	...	82	86	80
"	10	...	...	...	93	72	78
"	12	...	...	...	80	74	78
"	14	...	...	...	71	72	72
"	15	...	...	...	82	84	85
"	17	...	...	...	90	75	76
"	19	...	...	...	85	75	72
"	21	...	...	...	86	72	69
"	22	...	...	...	86	72	69

On September 26 patient was passing thirty-five to forty-five ounces of non-albuminous urine. No bruit; was out of doors on the cricket-field the greater part of the day. In April, 1899, I heard from Dr. Sansom the patient was still doing well.

I may incidentally add that the pulse rate, in the same way, was taken before, during, and after the exercises, from September 3 to September 22 inclusive. I have the table here, if anyone cares to see it. It shows that the exercises have some effect in slowing the heart's action, but not so markedly as the baths :—

*Exercise Pulse Rate.*

Date.						Before.	Middle.	15 minutes after.
September	3	...	...	...	...	84	94	84
"	4	...	...	...	...	92	96	94
"	5	...	...	...	...	86	93	89
"	6	...	...	...	...	94	80	86
"	7	...	...	...	...	80	72	82
"	9	...	...	...	...	94	90	80
"	10	...	...	...	...	90	82	84
"	11	...	...	...	...	86	83	80
"	12	...	...	...	...	81	80	76
"	13	...	...	...	...	84	80	77
"	14	...	...	...	...	84	82	74
"	16	...	...	...	...	94	67	80
"	17	...	...	...	...	89	81	83
"	18	...	...	...	...	87	78	86
"	19	...	...	...	...	84	84	84
"	20	...	...	...	...	82	80	87
"	21	...	...	...	...	93	78	85
"	22	...	...	...	...	84	81	74

(e) Cases of dilated heart in elderly people after acute bronchitis or chronic bronchitis with emphysema. These cases seem to do particularly well, as the climate enables the patient to spend a great part of the day in the open air.

## (2) *Pulmonary Diseases.*

(a) Phthisis.—Early cases of this disease do well by wintering in South Devon. *Caeteris paribus*, the rational open-air treatment can be more easily and advantageously followed in a mild climate with abundant sunshine. A want of the South Devon coast, as far as I know not yet supplied, is an establishment for treating phthysical cases on Nordrach lines. There could not be

a more suitable spot than the vicinity of Sidmouth, and I think great success awaits anyone who starts such an establishment in a sheltered position on the hillside 300 to 400 feet above the sea.

(b) Cases of chronic bronchitis and emphysema are well suited by the warm and somewhat moist atmosphere. A former official of the British Museum, now resident in the Sidmouth valley, finds his dyspnoea much relieved and a condition of comparative comfort established. In London all enjoyment was taken from life, and he was told by an eminent consultant that in all probability his disease would speedily have been fatal.

(c) Asthmatics, as a rule do well, especially that form which in not being traceable to a visceral cause may be considered a pure neurosis.

The wife of a friend of mine who once lived in Sidmouth suffered from spasmodic asthma. I understand he originally came to live at Sidmouth because of his wife's trouble. She attained complete freedom from her affliction, and although now again resident in London has not relapsed.

### (3) *Renal Cases.*

Renal cases are benefited by the mild climate and free skin action induced by the moisture in the air. The prospect of life in many instances has been changed for the better by a residence in South Devon.

### (4) *Nervous Diseases.*

(a) Insomnia, as a neurosis only, *e.g.*, after influenza, is usually cured by the climatic conditions with the exercise available. There is no doubt, clinically speaking, that a moist mild climate is more inducive to sleep than is dry cold.

(b) Those cases of neurasthenia of varying types, so common after influenza, so common, too, amidst the constant turmoil and nerve strain of our modern town life, are very much assisted by a few weeks quiet and rest amongst the beautiful hills and fern-bordered lanes of South Devon.

### (5) *Gouty Cases.*

Gouty cases in the chronic stage, especially the patient with gouty kidney, does well at Sidmouth. One of the most important

parts of the treatment, that is, exercise out of doors, can be taken under the most favourable circumstances during the winter months. The Aix massage-bath is especially useful in cases of chronic gouty affections of the joints.

(6) *Rheumatism.*

With regard to rheumatism I have already mentioned the heart affection of acute rheumatism. The chronic articular and muscular forms are immensely benefited by hot douche baths with massage ; but one cannot say they are more successfully treated at Sidmouth than at Bath or elsewhere under the same treatment. Chronic and sub-acute rheumatism is fairly common in the Sidmouth valley, but not perhaps more common than elsewhere.

(7) *Convalescents.*

Convalescents from surgical operation febrile disorders, sufferers from malarial or other cachexia, sufferers from the depression after influenza, will find the mild winters and abundant sunshine of our South Devon valleys most favourable to recovery.

Now, it would be a distinct injustice to my audience were I only to enumerate the advantages of Sidmouth as a winter health resort without referring to certain classes of cases in which, in my opinion, a warm moist atmosphere is definitely contra-indicated.

(1) *Cases of simple anæmia.* It is a curious fact, and I should be most grateful to any member of this Society who could point out the reason, that this complaint is so particularly common in Devonshire valleys amongst young girls. Of the fact I think there is no doubt. The cause is certainly not want of fresh air. It has been said that simple anæmia, usually occurring in girls between the ages of 14 and 25, is Nature's cry for want of sexual intercourse. It is not one's experience that such a want is less satisfied in South Devon than in other counties ; but it is a common observation that marriage terminates the anæmic condition.

(2) *Cases of hepatic congestion* occurring in the so-called liverish individual. The patient with whom iron does not agree

fares badly anywhere by the seaside, but worse perhaps in the valleys in South Devon than elsewhere.

(3) *Cases with a tendency to hæmorrhage, e.g., cases of menorrhagia.* A patient with a tendency to hæmoptysis runs an extra risk in a low-lying humid district. This statement is in complete accordance with the views of Dr. Septimus Sunderland, as stated in vol. ii., part 1, of the Journal of our Society.

It is surprising how rapid is the improvement in cases of menorrhagia by change of residence to a higher elevation.

(4) I will add to the class of case which I should not recommend anyone to send to Sidmouth, these where, from the individual temperament of the patient or from some other cause, a gay life of amusement is desired. In such cases a larger town should be sought, with theatres, pier, band, &c. At Sidmouth, in the winter, such things are not.

In conclusion it should be mentioned that the drainage is as perfect as modern science can make it. In 1897, under the superintendence of Mr. Mansergh, of Westminster, about £12,000 was spent in relaying the drains and perfecting the sewage disposal of the town.

The water is of the purest, being conveyed from the uninhabited moorlands on the surrounding hills. It is consequently very soft with less than 2 degrees of hardness. Several expert analyses shew it to be a water which, for domestic purposes, has no superior in the United Kingdom.

Notifiable diseases have been practically non-existent during the last three years.

Of amusements in the winter there are Golf and Badminton Clubs. There is also a first-class Social Club, facing the sea, with daily whist and billiards.

Finally, gentlemen, I must ask you to forgive me if I have bored you with an account of a place of but little interest to you. I have tried to avoid exaggeration. My excuse is that there is no place  $4\frac{1}{2}$  hours by rail from London which will give in special cases such good results as Sidmouth. I do not claim for it any special exemption from the vagaries of our English climate, but I maintain that from its natural and artificial advantages it is well worthy of consideration by those seeking a winter health resort.

## DISCUSSION.

Dr. LUFF (London) said he would not detain the meeting at that late hour with any long observations on Dr. Leon's paper, but since it had been his good fortune to make a pleasant visit to Sidmouth, he would like to say a word about that very charming resort. He arrived at Sidmouth two-and-a-half years ago, at a somewhat unpropitious moment; for, on alighting from the train, a peculiar odour assailed the noses of those who came from it. Some of the passengers said, "What a delightful smell of the sea! Do you notice the ozone?" He had generally noticed that when people, especially Londoners, visited at a seaside resort where there was a large amount of putrefying seaweed on the beach, they immediately remarked on the smell of ozone. However, that smell at Sidmouth was not that of ozone—which he knew well—nor did it seem to be putrefying seaweed; and yet it seemed familiar. He found it was sewage. He arrived at a time when all the old sewers were up. When the very excellent sewers, for which the town had to thank Dr. Leonard Williams, were laid down (and he thought he could speak with some knowledge of sewers) there was no town on the south coast better drained and sewered than Sidmouth. Of the baths he must certainly speak in terms of admiration, and every case, whether it were one of dilated heart, or any form of articular affection, could be very well and efficiently treated there.

He now came to the question of the desirability of Sidmouth for the cases in which he was more particularly interested, namely, gout and rheumatism. And here, with some diffidence, he must join issue with Dr. Leon; at all events, he would be pleased if Dr. Leon could set him right upon the matter. There was no doubt about the high relative humidity of the air at Sidmouth. As Dr. Leon had said, the town was shut in by rather more than a semicircle of hills, which, he said, were 500 feet high. His personal experience was that the cases he was mainly concerned in the treatment of, and that he had to advise as to seeking restoration of health at various resorts, namely, gout and rheumatism cases, did not, as a rule, do so well in places where there was a high relative humidity, such as 83 per cent., as in places where it

was lower. His cases did better where the average humidity was between 60 per cent. and 75 per cent. As far as the baths at Sidmouth were concerned, he would have no hesitation in sending to them cases of either gout or rheumatism; but the humidity of the place was not the best for such affections. But here he would like to know what Dr. Leon's experience was; because, after all, the experience of a man on the spot was of far greater value.

But for the lateness of the hour, he would have liked to have touched upon the causation of anæmia in localities of such high humidity. He did not quite agree with what Dr. Leon said about anæmia being the cry for the exercise of the sexual function.

Dr. LEONARD WILLIAMS said that, as Dr. Leon's predecessor in Sidmouth, he might, even at that hour, be allowed a few words, first to congratulate him upon his very admirable paper. It was what was unusual in such papers, a very fair statement of the case for and against Sidmouth.

From his own point of view, the most interesting part of the paper was that which Dr. Leon had only lightly touched upon. When he (Dr. Williams) first went to Sidmouth ten years ago, he was struck by the absence of albuminuria among the patients he had to see. And during the nine years he was there, he saw only one case of acute Bright's disease in a native, and not one case of chronic Bright in a native. Of course cases of chronic Bright's disease were imported, and the benefit they derived from their residence there was very striking. Dr. Leon had pointed out the relatively high humidity of the air at Sidmouth, and Dr. Luff, in common with others, seemed to think that such a condition was a cause for reproach to a health resort. The result of a high relative humidity was to produce equability of temperature, by preventing a too rapid radiation of the heat of the body as well as from the soil. The result was an equable temperature in the body, which accounted in his opinion, for the beneficial effects in albuminuria and kidney disease in Sidmouth. They were all rather apt to underrate the importance of the assistance they derived from the skin in such cases. Of course in uræmia they flew to the skin, but as soon as it had served their purpose they



cast it aside like a disused handkerchief, and thought of it no more until the next case of uræmia. In his view there was no doubt about the beneficial effects of the Sidmouth climate and climates similar to it in all cases where the kidneys were affected. Dr. Luff was in the fashion in pointing the finger of scorn at a high relative humidity, but he (Dr. Williams) did not know of any condition in which high relative humidity could be said to be positively deleterious. He agreed with Dr. Luff that in any case where an active metabolism of the tissues was desired one would not select a climate of high relative humidity; but, after all, the relatively high humidity could be discounted. One selected such a climate in kidney disease cases, for the reason that the wheels of the machinery were kept going, but going slowly, and that was the aim of the physician, for he knew that if the machine were driven at a high pace it would mean annihilation. If the machine required to be driven at a high pace, a climate of that kind was not chosen. Still, cases in which metabolism was required to proceed at a fair pace could do well in those climates if a little attention was paid to the question of diet. He had made so bold, through the medium of the *Journal*, to lecture the Fellows of the Society on the dietetic factor in climatic treatment; and he still strongly held the opinions he then expressed, which were briefly, to the effect that every health resort should have a recognised dietary. He had been called to account by those who contended that diet was a personal question, and that the place had quite a subsidiary position. He was prepared to agree with that, but a diet suitable to a given climate could in most cases be laid down. In the case of Sidmouth, for example, he knew of a great number of cases, not acutely ill, who went there for the sake of their health—such cases as Dr. Luff would send down—they did not know the peculiarities of the climate nor what dietetic regulations were necessary; they did not consult a doctor immediately they came, and they fell ill. They did not know that alcohol could only be tolerated in the very smallest quantities, and that albuminous foods could not be borne to anything like the same extent as at places further East. In that way the climate got a bad name, and the patients went back

to their physician in Weymouth Street, saying that Sidmouth had not done them any good. It was simply because such persons would not take the trouble to find out what diet was suitable to the place. That was true in this country, though in Germany, and other countries attention was paid to these matters, to the great advantage of the health resort, to say nothing of the patient.

Dr. SYMES THOMPSON said the last speaker had explained satisfactorily, to his mind, the reason why anæmia was prevalent in Devonshire and the Channel Islands, a fact which he (Dr. Thompson) pointed out in his paper in the Medico-Chirurgical Society's volume on "Baths and Climates." He believed that where there was an equable temperature, and a high relative humidity, metabolism was less active, and refuse products were retained. If anæmic persons were sent to the East coast, their metabolism was rendered more active, because of the more stimulating type of atmosphere, and their anæmia passed away. He believed Dr. Leonard Williams had expounded the main cause for the frequency of anæmia in the Channel Islands and South Devon.

The CHAIRMAN said that the interesting paper on Sidmouth, which Dr. Leon had given them, was very instructive to all those who, like himself, did not know the place. He had also given a very interesting experience on the subject of the Nauheim treatment as applied at Sidmouth. He was sure that they would all congratulate him very much on the success of the paper. He called upon Dr. Leon to reply.

Dr. LEON, in replying on the discussion, said he carefully mentioned in his paper that he thought a damp and warm, but equable climate, was mainly suitable for the advanced kidney cases with albuminuria, causing free skin-action. He quite agreed with Dr. Williams as to the extreme rarity of chronic Bright's disease amongst the residents of the valley; the cases of that disease which one saw were all amongst visitors. That, to his mind, constituted an important argument in favour of the climate of Sidmouth in the treatment of albuminuria and advanced gouty kidney. The skin elimination must help to retard the accumulation of urea in the system and the consequent uræmia, which was always impending in those cases. The treatment of gouty

joints by the baths was successful, but cases of gouty diathesis did not do well there, except under strict diet, as Dr. Williams had mentioned. With regard to the prevalence of anæmia, he did not put forward as his own the statement about the sexual organs, but as one he had heard offered as an explanation. He had heard of no other being propounded until Dr. Symes Thompson's remarks that evening. With regard to that, he would like to ask Dr. Thompson how it was, when such a subject married, that the anæmia disappeared, for such was his own experience and that of other doctors he had spoken to. It could hardly be that the metabolism was changed promptly, though it might be. A patient while single would periodically seek relief from headaches and other symptoms of anæmia, which would be temporarily banished by iron and so on, but after marriage she would not come again.

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## Original Communications.

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### DR. FREY'S HOT-AIR DOUCHE.

BY DR. W. H. GILBERT, BADEN-BADEN.

How valuable and important physical methods of treatment have become of late is best proved by the large number of apparatus constructed in favour of one special branch alone, viz., the application of hot air—aëro-therapeutics.

While Tallerman, Krause, Bier, Greville, Windemann, and others, have designed methods and apparatus for treatment with hot air in a quiescent state, Dr. Frey, of Baden-Baden, had already, in the spring of 1898, invented and constructed an apparatus for the application of hot air in form of a current—a hot-air douche, in fact.

In the first models air was conducted over metal spirals heated by a gas apparatus. For the regulation of the temperature to any desired degree the apparatus was provided with an arrangement for mixing hot and cold air. This method was, however, not devoid of certain inconveniences, especially such as were inseparable from the products of gas combustion. The electric current was therefore substituted for gas as the heating medium. This simplified the apparatus considerably, the ventilator of turbine bellows being already worked by electricity.

After various preliminary experiments the hot-air douche was exhibited in March, 1899, at the 20th Congress of the German Balneological Society in Berlin, and met with unanimous approval from the most competent judges. Before entering into description of the apparatus a few preliminary remarks will not be out of place.

When a high temperature is employed in thermo-therapeutics dry air is the form generally used. Temperatures of 65° to 70°C. are often utilised and are well known in the form of Turkish and other hot-air baths. When temperatures of 80° to 85° C. are employed the head of the patient is excluded from the heat. Partial hot-air baths are then the usual form. The most varied

sources of warmth are used to produce the desired temperature, latterly even the electric incandescent lamp. In this form not only the *warmth* itself, but also the *electric light* seems to play an active part in producing the effect. Still higher temperatures—such as 100° to 140°C.—have up to now only been applied locally.



The best known form of application is the Tallerman treatment. According to this method the part of the body to be treated is exposed in an isolated chamber to the dry hot air. The original apparatus is heated by gas. Windemann's modification was a great improvement, in that here the heat is produced by means of the electric current. The thus changed Tallerman apparatus is called the "electro-therm."

The application of hot air in closed chambers or cylinders to the affected part of the body has, in spite of the very considerable improvements, two serious disadvantages.

(1) The discomfort to the patient caused by keeping part of the body for any length of time quietly in one position in the hot-air apparatus.

(2) The impossibility of exposing *every* part of the body to the hot air.

These disadvantages caused Dr. Frey to cast about for a more comfortable, and, in general, more useful method of applying hot air.

The following conditions had to be fulfilled :—

(1) The hot air must be applied without discomfort to the patient.

(2) The heat must be applicable to every part of the body which is usually accessible to outward applications.

(3) The high temperature of the air must be produced in such a manner that neither patient nor physician is troubled by the products of combustion, &c.

The hot air douche fulfils these conditions by producing a current of hot-air from 100° to 200°C., from a mouthpiece of 2·5 cm. diameter with such a force that it is felt at a distance of 125 cm. from the outlet.

The apparatus consists of :—

(1) A small 0·1 horse power electro-motor.

(2) A system of ventilators or turbine bellows, which produce a current of air on an average of 4,000 cubic metres per hour.

(3) A heating apparatus. Electric heating plates are so arranged, in a well isolated box, that the current of air passes over them and is warmed on them.

(4) A well isolated hot-air tube joined to the heating apparatus—about 1½ metres long and 2·5 cm. in diameter, with thermometer attached.

(5) A tube of the same length for cold air, branching off direct from the bellows.

(6) Two rheostats ; one to regulate the speed of the bellows, the other to regulate the temperature of the heating plates. The apparatus can thus be regulated to produce a current of air of any force and any temperature.

(7) A conducting wire and stopper with which the apparatus, like an electric lamp, can be connected with every parallel current.

When the apparatus is in movement it produces an immense current of hot air of 100° to 200°C. out of one tube, and out of the other, an equally strong current of cold air. Stopcocks permit of the application of a current of air at every temperature to all parts of the body. The simplest gradation in the effect is obtained by approaching or removing the mouth of the tube to and from the part of the body to be treated. The most varied effects of warmth are at the same time possible by applying the tubes for warm and cold air alternately. Further experiments with the hot-air douche must decide the question whether the tactile irritation of the current of air has a therapeutic as well as a thermal effect.

Besides the direct application the apparatus has the advantage of being applicable as a powerful source of hot air, thus producing in a most comfortable manner hot-air procedures of long duration.

A space wherein to conduct the hot air and thus to treat any part of the body can be arranged by means of wooden framework and blankets in every bed. It is then advisable to cover the outlet of the tube slightly with cotton wool, to render the current of hot air less forcible. Applied in such a manner, the hot-air douche fulfils all the requirements of still-air inventions without any of their discomforts.

From the time of its construction in March, until September, 1899, the apparatus underwent strict scientific and practical trials, and was again exhibited with various improvements at the "Naturforscher and Arzte Congress" in Munich, and it has been in constant successful use in our Sanatorium ever since; I am therefore in a position to testify to the advantages, efficacy and therapeutic value of the hot air douche.

The advantages of Dr. Frey's apparatus consist in its capability of producing a tolerably strong current of air heated up to 200° C., which can be applied without the slightest preparation or the slightest inconvenience to the patient, to any part of the body. Various shaped mouth-pieces permit of the air being used in

the form of a thick, a thin, or a fan-shaped current. The two rheostats regulate speed and temperature, and the latter can thus be made to increase, remain permanent, or decrease, according to necessity. As a general rule, however, the simplest manner of regulating the warmth is by approaching or withdrawing the outlet of the air tubes.

The physiological effects of heat are fulness of the capillary network of the skin, softening and relaxation of the entire integument, and an increase of volume in the limbs. Accelerated circulation of the blood and flow of the lymphatic current, together with relaxation of the muscular and elastic fibres of the skin, produce effects capable of compensating some pathological conditions, possibly of removing morbid deposits by absorption.

The reduction of pressure and tension in the tissues under the influence of warmth, is very probably the reason why pains—which are possibly created by pressure on the cutaneous nerves, disappear directly under the application of warmth. It is a known fact that massage is rendered much more efficacious when the tissues of the body are under the above-mentioned effects of warmth, and according to our observations, massage performed under the current of the hot-air douche appears to produce very much better results than when applied alone.

The cases in which such an apparatus would be of use to the physician are necessarily very numerous. My own experience has been mainly with gout, rheumatism, neuralgia and allied conditions, and the excellent results obtained leads me to the conclusion, that in Dr. Frey's invention we have a therapeutic agent of immense value.

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## Reprint.

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### SOME REMARKS UPON ADDISON'S DISEASE.<sup>1</sup>

BY H. J. CAMPBELL, M.D., F.R.C.P.

*Senior Physician to the Bradford Royal Infirmary and Lecturer on Forensic Medicine  
in the Yorkshire College.*

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MR. PRESIDENT AND GENTLEMEN,—When asked by the secretary to read a short paper to-night I willingly agreed, as I thought it would give me an opportunity of eliciting information upon the comparative frequency of Addison's disease in and around Halifax. Personally, I have been much struck since coming to Bradford with the relative frequency of certain diseases which in and around London are very rare. Amongst these, intra-thoracic growths, acute ascending myelitis and Addison's disease have certainly seemed to me to be strangely common. Of course I do not mean to say that these rare maladies are absolutely common, but relatively to their frequency in the south. With regard to intra-thoracic tumours, I have seen more in the last four years than I saw in the previous ten years in London, and that in spite of the fact that during the latter part of my time in London, my being on the staff of a chest hospital gave me abundant opportunity of seeing the rarer chest affections. With regard to acute ascending myelitis, Sir William Gowers, with all his enormous experience, states that he has seen very few cases of this malady, yet in the past four years it has been my good fortune to see three cases, the diagnosis being confirmed in two of them by an autopsy. The third case was open to doubt as the paralysis ceased extending after it had reached the lower intercostals and the patient is still living. Of course it may be only due to coincidence that one has seen these cases in a comparatively short time, but of that, those who have been longer in the district than I have can judge better than I can.

With regard to Addison's disease, I have during the past twelve months seen five cases that appeared to me to be suffi-

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<sup>1</sup> Read before the Halifax Medical Society.

ciently definite to justify a positive diagnosis being made. Of these, one is I believe still living, the second died suddenly in the way that is not uncommon in this disease, but no *post-mortem* examination was permitted ; in the third, both supra-renal glands were found to be the site of secondary growths, and the fourth and fifth both showed the supra-renals to be affected in the most typical way by tuberculous deposit. The glands from these two cases are in the bottles before you. The third and fourth cases were under the care of one of my colleagues in the Bradford Infirmary, and as he, I believe, proposes publishing them, I will not refer to them further. The last was so typical of the disease in its most pronounced form, that I will read the notes of the case, which were taken by the late Dr. Earnshaw when he was house physician at the Bradford Infirmary.

The patient was a man, aged 48, a shoemaker. Nine months prior to admission the illness had commenced with nausea and vomiting every morning. His appetite failed, and bronzing of the skin soon began to show itself. The fingers and toes became blue in the cold weather. On examination the patient showed well marked "bronzing" of skin, especially in the folds and over points of special pressure, *e.g.*, at the place where a truss was applied. The skin over the terminal phalanges of fingers and toes was cold and blue, although the weather was warm. Urine normal. The heart was normal. No sign of tubercle in the lungs. Examination of abdomen negative. The pulse was small and feeble, and the patient very weak. The appetite was bad, and he vomited occasionally. Patient rapidly got weaker, refused to take his food, and, passing into a semi-comatose state, died on June 19, 1897, seventeen days after admission. *Post-mortem* examination showed extensive tuberculous disease of the supra-renal bodies.

This case presented the symptoms and *post-mortem* appearances of the disease in a typical form. The asthenia, without marked wasting was a most insistent symptom, and this with the marked bronzing of the skin and mucous membranes, the persistent nausea, the feeble heart beat and the low blood pressure, together with the absence of any physical signs which would account in any other way for the condition, rendered

the diagnosis comparatively easy, whilst the *post-mortem* appearances were such as to place it on a par with Addison's classical cases.

From 1855, when Addison, in his search for a cause of pernicious anæmia, discovered that in cases presenting the assemblage of symptoms which we now know by his name, the supra-renals were invariably found affected; until quite recently, there has, however, been considerable doubt as to whether the causal lesion was in reality the affection of the supra-renals, or whether it was not due to the involvement of the adjacent sympathetic ganglia. It may now, however, be safely asserted that it is in the glands, and in the glands only, that we must look for the *fons et origo mali*, for, excluding such observations as those by Nothnagel, who noticed the production of pigmented spots after the destruction of the glands by crushing, and those of the Marino-Zuccos, who, after inoculating the supra-renals with tubercle bacilli, observed the occurrence of the symptoms of the disease in rabbits, the recent work of Tizzoni, Abelous and Langlois on the destruction of the glands without injury to adjacent structures, has abundantly proved that Addison's original conception was a true one. The observation of the last-named experimenter, that if  $\frac{1}{11}$ th of the total weight of the capsules of the dog be left the animal will survive the operation, is of special interest. Further, Abelous and Langlois found that the blood of animals, dying in consequence of the removal of the glands, is toxic for other animals which have recently been deprived of their capsules, although it causes no toxic results in normal animals, whereas the transfusion of normal blood into the veins of "decapsuled" animals tends markedly to prolong their survival of the operation. Abelous and Gourfein tried grafting supra-renals in the frog and found that the usual results following on ablation were prevented, but similar results were not obtained by Dominicis in the higher animals.

The corresponding experimental observations upon the effects of injecting the extract, made from supra-renal glands, into normal animals, were first carried out by Foa, Pellacani and Alexander, who, however, arrived at somewhat contradictory

results. More recently, however, Schäfer, Oliver and Swale Vincent have repeated the experiments, with the result that they found that the intravenous injection of extract of the medulla of the gland invariably caused an increase of muscle tone, and with the vagi cut, an enormous rise of blood pressure, the latter being chiefly due to the effect produced upon the vessel walls, and this, though the dose used was excessively small. In a *résumé* of the work that has been done, Schäfer concludes that the effect of the internal secretion of the supra-renals is beneficial to the muscular contraction and tone of the cardiac and vascular walls, and even of the skeletal muscles.

It will thus be seen that the asthenia, the muscular weakness, the low blood pressure, the feeble cardiac action, the headache and vertigo, and perhaps the gastro-intestinal symptoms, may all be accounted for by the lack of the normal internal secretion from the glands in cases where these organs have been destroyed. Further, the experiment of Langlois previously alluded to, in which he found that adverse results might be prevented by leaving  $\frac{1}{11}$ th of the supra-renal in the body, exactly corresponds with what Rose Bradford discovered in connection with the kidney and v. Mering and Minkowski with the pancreas, and what numerous observers have recorded in connection with the thyroid. The pigmentation is more difficult to account for, but it seems to me that this is, at least to a great extent, protective and conservative in nature, and is due to the reaction of the body to the bad effects produced by the absence of the internal secretion of the glands. It must be borne in mind in any discussion upon this subject, that a similar condition may be induced by exposure to strong light, and especially to the Röntgen rays, as also to the irritation of cutaneous parasites and dirt (vagabond's disease). A very similar condition of pigmentation is sometimes seen in pulmonary tubercle, in chronic arsenical poisoning, in syphilis, in pregnancy, and rarely in hepatic cirrhosis and in chronic gastric catarrh.

With regard to the duration of the disease this is very variable, it may be as long as ten years, whilst in the case whose notes I have read it was only ten months.

Death is generally due to a gradually increasing exhaustion,

lapsing into coma, but not rarely it is from cardiac syncope, and it may be associated with all the signs of acute uræmia subsequent to renal suppression.

The question of treatment is of the utmost importance, for if left alone the fatal issue is sure. As, however, general treatment, as with Ol. Morrh., Arsenic, protection from cold, &c., may prolong life, but at most only for a comparatively brief period in an advanced case, it is not unnatural that great attention should have been paid to the treatment by supra-renal extract. This, theoretically, should be as effectual as has been the treatment of myxœdema with thyroid extract, and eventually we may hope it will prove to be so. Up to the present, however, most observers have met with but little encouragement from this method of dealing with the disease. The cause of this, I believe, must be looked for either in the mode of preparation of the extract, or more probably in the method of administration. Schäfer and Oliver found that the active principle was not destroyed by gastric digestion outside the body, but on the other hand, Swale Vincent and other observers have not had constant results from giving the gland by the mouth. Further, the recent use of the extract as a local astringent in ophthalmic practice has shown that it is very easily destroyed and rendered useless by various reagents. The ideal mode of administration would be by intra-venous injection in very small doses, but this is of course impracticable for prolonged use. With regard to hypodermic injection, the results have not been constant, and are even attended by some danger. The mode of administration which seems to me to hold out most hope, and the one which in the future I mean to make use of, is by the rectum, in the form of suppositories made up with a neutral fat. As Schäfer's work has shown, the quantity used need only be very small, and it would probably suffice to administer a suppository night and morning over a long period, with occasional intermissions. The frequency of administration and the dose can, however, only be discovered by experience.—*Quarterly Medical Journal*.

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# BRITISH BALNEOLOGICAL AND CLIMATOLOGICAL SOCIETY.

COPY OF COUNCIL MINUTES, OCTOBER 26, 1899.

Present :—Dr. FORTESCUE FOX in the chair, Drs. BOWEN DAVIES, WARD-HUMPHREYS, SNOW, IVOR MURRAY, KEETLEY, LEON, LUFF, LEONARD WILLIAMS, MCCLURE, DOUGLAS KERR.

The CHAIRMAN referred in feeling terms to the serious illness of the Chairman of Council, Dr. Hyde, and moved a hearty vote of condolence to Dr. and Mrs. Hyde, which was seconded by Dr. IVOR MURRAY, and carried unanimously with much sympathy.

Minutes read and confirmed.

The following Candidates were passed for nomination at the Ordinary Meeting :

Sidney H. Snell, M.D., B.S. (Lond.), Scarborough.  
Rupert Geo. Naylor, L.R.C.P., F.R.C.S., West Mersea.  
Wellesley Garrett, L.R.C.S., L.M., Leamington.  
Percy Pope, M.D., L.R.C.P., M.R.C.S., London.  
Thos. Geo. Drake, L.R.C.P.I., L.R.C.S.I., Limpley Stoke, Bath.  
Archibald Munday Weir, L.R.C.P., L.R.C.S., Malvern Link.  
J. Wm. Campbell, M.D., M.R.C.P., D.P.H., Mentone.

## *As Corresponding Fellows.*

Chas. F. McGahan, Acken, S. Carolina.  
Henri Forestier, Aix les Bains.

Resolved that all Corresponding Fellows shall in future be supplied with Journals free of charge.

Resolved that the Meetings be held on Thursdays on the following dates at 8.30 p.m. :-

1899.—October 26 and December 7.

1900.—January 25. March 8. April 26. May 24.

The TREASURER made a statement about the accounts, and his report was deferred till the next Ordinary Meeting, pending the arrival of details concerning the Journal account.

Resolved that the amount of £26 5s. be paid to the Royal Medical and Chirurgical Society for the use of the rooms during the past two Sessions.

Resolved that a gratuity of £1 be granted to the Hall Porter for services during the past session.

Resolved that Dr. Ivor Murray be elected President of the Society for the ensuing Session, on account of the lamented death of Dr. Sinclair Coghill, which occurred soon after his election on June 1 last.

Resolved that a vote of condolence be sent to the wife and family of the late Dr. Sinclair Coghill.

Resolved that Dr. Leonard Williams and Dr. Sunderland be empowered to carry on the work of the Journal pending the recovery of Dr. Hyde.

Resolved that a further endeavour be made to increase the number of advertisements in the Journal.

The CHAIRMAN suggested that a Journal Committee be called at an early date to discuss the best method of increasing the advertisements.

#### GENERAL MEETING, OCTOBER 26, 1899.

President, Dr. R. FORTESCUE FOX in the Chair.

The Minutes read and confirmed.

The PRESIDENT referred to the severe illness of the Chairman of Council, Dr. Hyde, and proposed a vote of condolence with Dr. and Mrs. Hyde, which was seconded by Dr. SYMES THOMPSON, supported by Dr. IVOR MURRAY and carried unanimously.

The PRESIDENT stated that the Balance Sheet and Treasurer's Report would be presented at a subsequent meeting.

The PRESIDENT then introduced the President-Elect, Dr. IVOR MURRAY, of Scarborough, who then took the Chair.

Dr. MURRAY referred to the lamented death of Dr. Sinclair Coghill, who died a few weeks after his election as President in June last.

Dr. SNOW proposed and Dr. SCANES SPICER seconded a vote of thanks to the retiring President.

Dr. FORTESCUE FOX replied.

Dr. WM. EWART proposed and Dr. DOUGLAS KERR seconded a vote of thanks to the Editor of the Journal.

Dr. BOWEN DAVIES proposed, and Dr. FELKIN seconded a vote of thanks to the Treasurer and Auditors.

Dr. LEONARD WILLIAMS replied.

Dr. KNOWSLEY SIBLEY proposed and Dr. LEONARD WILLIAMS seconded a vote of thanks to the Librarian.

Dr. LUFF proposed and Dr. LEON seconded a vote of thanks to the Council and Secretaries.

Dr. WARD-HUMPHREYS replied for the Council and Dr. SHIRLEY JONES for the Secretaries.

ORDINARY MEETING.

Dr. IVOR MURRAY in the Chair.

Minutes read and confirmed.

Following candidates nominated for ballot at next Ordinary Meeting. (See Council Minutes for list.)

The PRESIDENT then read an interesting and instructive Address, entitled "A Retrospect and Forecast."

Dr. SYMES THOMPSON proposed, and Dr. MCCLURE seconded, a vote of thanks to the President for his Address.

The PRESIDENT, replying, said : I have to thank you especially for the manner in which you have received what I was very much afraid was rather a paltry account of old age. I have to thank Dr. Symes Thompson for his kindness in taking the view which I wished to put before this Society, and for the kind way in which he spoke of my result. I have also to thank Dr. McClure for seconding the vote.

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AN ordinary meeting was held on Thursday, December 7, 1899, at No. 20, Hanover Square, London, W., at 8.30 p.m.

Owing to the illness of the President (Dr. Ivor Murray), Dr. Frederic Bagshawe, J.P. (Hastings) occupied the chair.

Dr. CECIL LATTER (Folkestone) read a paper on "The Duties of Medical Men in the Public Life of Health Resorts," which appears at p. 9.

Dr. LEON (Sidmouth) then read a paper entitled, "Sidmouth as a Winter Health Resort," which appears at p. 28.



## Reviews and Notices of Books.

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A **MANUAL OF SURGERY.** In three volumes. By Charles Stonham, F.R.C.S., Senior Surgeon to the Westminster Hospital, &c. London: Macmillan & Co. 1899.

The author of this work is to be congratulated on having placed before the profession a text-book which is up to date, well illustrated, and in form compact and portable. It is intended for students as well as for practitioners, and is written in an easy, attractive style, with a refreshing absence of those tabulated lists of signs and symptoms which the student is usually called upon to digest for purposes of differential diagnosis.

Especially good are the chapters devoted to venereal diseases, containing as they do an exceptionally able and valuable description of congenital and acquired syphilis. In this department the author has obviously taken very special pains to place before his readers all the latest forms of treatment, and the general practitioner will gain much therapeutic information of a thoroughly sound nature from a perusal of this part of the work.

A very concise and clear account of Injuries of the Eye, from the pen of Mr. Donald Gunn, is included in the second volume, which is devoted entirely to Injuries and their treatment.

The third volume of the Manual is devoted to the Surgery of Special Regions, and of these the best work appears in the chapters on Abdominal Surgery. In the Surgery of the Throat and Nose there are one or two important omissions. The author only mentions the recumbent position in the removal of adenoid growths, entirely ignoring the safer method of operating with the patient sitting up, under the influence of gas, or gas and ether. Then again, Intubation of the Larynx is only casually mentioned, and no hint is offered to the reader as to how best to perform this somewhat difficult, and in certain cases very useful, manœuvre.

In future editions, which we venture to predict will shortly be called for, we would suggest the inclusion of a chapter on the choice and administration of anæsthetics. No work on operative surgery is really complete without it, and the subject is one upon which the practitioner is often at a loss for information.

These omissions are, however, but slight defects in an otherwise admirably arranged work, which we hope, and are inclined to believe, will become a very popular text-book.

The plates are numerous, all are good, some of them being old friends. Of the new ones those by Mr. C. H. Freeman are of exceptional merit. Published in three volumes of handy size (a refreshing

advance upon the huge tomes from which some of us culled our surgery), printed in clear, large type; well written and well illustrated; author, artist and publisher have every cause to anticipate the success which they have done so much to deserve.

\*HEALTH ABROAD. Edited by Edmund Hobhouse, M.D. London: Smith, Elder & Co. 1900.

This very interesting medical handbook of travel supplies a great want in that it enables the traveller abroad to become familiar with the emergencies which may arise, and the different places which may be visited. The articles on the climates of the different countries are written by men eminently fitted, from their experience, to state definitely the various points of interest. Notable among these is that by Dr. W. J. Simpson, late Medical Officer of Health for Calcutta, and now Lecturer in the School of Tropical Medicine. He writes very fully, giving accurate information as to the best time for visiting India, the outfit necessary, points to be observed in diet, and dealing very carefully with the different diseases to which travellers are likely to be exposed. All the articles are written with the same care as that by Dr. Simpson, and to those who go abroad, as well as to those of the medical profession who have to deal with people who have been abroad, this book is not only a great luxury but it is something very like a necessity.

\*THE TRANSACTIONS OF THE AMERICAN CLIMATOLOGICAL ASSOCIATION. Vol. xv. Philadelphia, 1899.

The current volume of this very energetic and instructive Association maintains the high standard of its previous publications. The articles are not confined to the rather dry details of meteorological and climatic data, but the aim seems to be to approach disease from the climatological standpoint. Thus we have the subjects of consumption, the anæmias, and heart disease, considered in their respective relations to altitude; the climatological aspects of renal disease and skin affections are well considered in relation to therapeutics, while in an article entitled the Climatology of Nudity (light, heat, atmosphere) we have a very interesting *brochure* which loses nothing in attractiveness from its rather arresting title. Hydrotherapy in the treatment of insomnia forms the subject of an article by Dr. Hance, of Lakewood, N.J., which deserves careful perusal, not only by such as practise at health resorts, but also by those who may have to improvise their hydro-therapeutic measures. Various topics which have no necessary connection either with balneology or climatology also find a place in the volume. Of these, cardiac disease must be given first place, no less than nine articles (all of them interesting)

being devoted to this subject. The paper by Dr. Judd, of Philadelphia, advocating the treatment of diphtheria by large doses of calomel, is not only instructive and highly suggestive, but it has a practical value which no one can afford to neglect.

\*THE MEDICAL ANNUAL SYNOPTICAL INDEX (1887-1898). Bristol : Wright & Co. 1899.

To those of our readers who have been prudent enough to supply themselves each year with a Medical Annual, this synoptical index will be of great value. Like most of the works which reach us from this firm, everything in the way of printing, paper and binding is as good as it can be. One wonders, nevertheless, why the colour of the index volume, instead of the quiet green which we are accustomed to associate with the Annual, has been changed into a fine scarlet. There is, after all, much satisfaction to be obtained from uniformity of our book-shelves.

\*THE HEALTH RESORTS OF EUROPE. By Thomas Linn, M.D. 1899.

This highly useful and wonderfully accurate little manual appears this year in an enlarged form. The practice hitherto so largely adopted in English works of this class, of relegating British Health Resorts to very minor positions, is being gradually but surely departed from. The notices accorded to some important places used to be meagre in the extreme, and others deserving of mention were entirely omitted. All this is now being changed. We welcome the change, more especially as it indicates an increased desire on the part of the public for information about our home stations.

GLASGOW HOSPITAL REPORTS. Vol. ii. Edited by George S. Middleton, M.D., Henry Rutherford, M.B., and W. K. Hunter, M.D. Glasgow : James MacLehose & Sons. 1900.

This is a volume which does credit to the Glasgow Medical School. The various contributions are for the most part serious and valuable studies in clinical and pathological work. Apart from the honour they reflect on their several authors, they are evidence of the existence in Glasgow of a number of workers alive to their responsibilities and imbued with the spirit of an earnest purpose. It is too often forgotten that those on whom fate has bestowed great opportunities for observation stand under the claim of responsibilities in corresponding measure. In so far as the members of our hospital staffs fail to utilise their opportunities for original work we are inclined to place them in the group defined by a great English classic as the "barren rascals." A reproach of this kind evidently cannot be applied generally to members of the Glasgow School. They have

learned directly or indirectly the Baconian precept that "if men will intend to observe, they shall find much worthy to observe." We imagine it is no mistake to conclude that many of the contributors owe much of the spirit which distinguishes their work to the inspiring example of the great physician who occupies the chair of medicine in their University. They have been fortunate in their master, and he in his disciples.

A SYSTEM OF MEDICINE. By Many Writers. Edited by Thomas Clifford Allbutt, M.D., F.R.S., &c. Regius Professor of Physic in the University of Cambridge. Vol. viii. Macmillan, 1899.

The issue of this volume brings to a close the most ambitious of recent medical enterprises. To present the practitioner with a detailed picture of the sum of our present knowledge in all departments of medicine proper, with each detail handled fully and at length by recognised masters in the various subjects, was a task requiring not only courage and industry but an amount of the *suaviter in modo* and *fortiter in re* which are rarely found in one and the same person. And yet Professor Clifford Allbutt has succeeded *à merveille*. The work as a whole is a splendid monument to the Editor's discrimination in selection, his skill in classification and arrangement, and his tact in management. The special departments such as laryngology, dermatology and the like, are treated in a manner as complete and authoritative as that which characterises diseases of the circulatory system or any other portion of recognised general medicine. This is a departure from the ordinary methods which all general practitioners, especially such as practise at a distance from reference libraries, will eagerly welcome; not the least of the benefits which the *System* confers upon its readers being an absence of references to "valuable monographs" for information upon important points. It is nevertheless right to add that a full and even copious bibliography is appended to each article, so that any one in search of the originals from which much of the matter is digested, will have no difficulty in finding them.

To be quite candid, the first volume was formidable enough to alarm the timid intending purchaser, and it required all the confidence which the reputation of the Editor and his co-adjutors could command, to induce some readers to embark upon Vol. ii. Not that the "Prolegomena" were uninteresting or otherwise than, in the main, admirably dealt with, but it must be admitted that medical statistics, anthropology in medicine, the general pathology of nutrition and the doctrine of fever are subjects which constitute somewhat strong meat to the busy practitioner—calculated rather to cause him to refrain from indulging in the remainder of the repast. Those however, who had the confidence have not found it misplaced. Each

volume as it has appeared has been a real delight to anyone anxious to be kept informed of the march of progress in medical science. The quality of the work done has remained at a high and marvellously uniform standard, and if the literary presentation is occasionally of strikingly unequal merit, it is only fair to remember that it is given to very few to clothe their thoughts in the easy, graceful and cultured form which cause Professor Allbutt's own essays to stand out in such conspicuous relief. Of the departments into which the *System* is divided, we have a special affection for the "Diseases of the Circulatory System," in which the work both professional and literary is altogether admirable. Dr. Sansom's contributions on the "Diseases of the Mitral Valve," are such as fully to sustain his great reputation as an observer, teacher and essayist. Sir Richard Douglas Powell's article on "Angina Pectoris," which he calls "an appalling and a picturesque disease," is such as to make it our chief regret, in this section, that there is so little from his graphic and lucid pen; for the other subject treated by him, "Diseases of the Myocardium," is hardly one which lends itself to the peculiar form of exposition of which he is such a master.

In considering the amount of space which is occupied by the various departments, the reader whose knowledge of matters professional dates back to the early eighties, is at once struck by the prominence given to "Diseases of the Nervous System." Twenty years ago so little was known of these diseases, that, in treating of them, text-books lost their habitual dogmatism, and in asking about them, even examiners were wont to forget their truculent omniscience. But time has changed all that. The genius of Charcot in France, the insight of Hughlings Jackson and the industry of Gowers in this country, have placed Neurology upon a footing, which is as secure and definite as any other department of medical science, and he who would call himself a physician must reap where they have sown. The contributions in this department reach a standard of excellence which alone would suffice to render the book epoch making; and no where is the Editor's discrimination in selecting his co-adjutors more clearly demonstrated. The section commences in Vol. vi., occupies the whole of Vol. vii., and claims 164 pages of the volume before us.

The article on "Medical Ophthalmology," by Mr. Brudenell Carter, recalls us with necessary insistence to the now oft repeated fact, that a knowledge of the use of the ophthalmoscope is as indispensable to the practical physician as is the intelligent employment of either the stethoscope or the thermometer. In no branch of work is this necessity so imperative as in that which we are now considering. To disregard the information to be obtained by examining the fundus oculi in suspected nervous disease, is equivalent to a neglect to examine the urine in suspected kidney disease, and it is indeed, not

too much to say, that ophthalmoscopic examination should be as much a routine of practice as the use of the thermometer.

With such names as Sir W. Gowers, Dr. Hughlings Jackson, Dr. Ferrier, Dr. Beevor, Mr. Horsley and Dr. Howard Tooth, at the foot of the various articles, nothing is required to recommend their careful perusal to the reader. In what may be described as the more recently differentiated and classified diseases, the bulk of the work has been entrusted to Dr. J. S. Risien Russell, than whom it would have been impossible to find any one more thoroughly suitable. In addition to presenting us with such an old friend as Disseminated Sclerosis in a somewhat new and very attractive garb, this writer deals with no less than eleven separate morbid conditions, and deals with them in a manner which leaves nothing to be desired. Verily, the wisdom of the Editor is ever before us.

The volume closing the *System* is taken up mainly with mental diseases and dermatology, both of which are treated in the manner of "thorough" which characterises the previous work. Mr. Ruskin divided books into two classes; those of the moment and those of all time. If anything in the shifting sands of medical literature can be said to deserve a place among the latter, it is surely the book for which Professor Clifford Allbutt has laid us under such deep obligations.

The works marked with an asterisk have been placed in the Library of the Society.

### Notes, News and Items.

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IT is with feelings of the deepest regret that we announce the death of Dr. Samuel Hyde, which took place in London on February 10. During his long and trying illness, which was borne with the utmost fortitude and patience, he never relaxed his interest in, and enthusiasm for, the Society which he was so largely instrumental in founding, or in the Journal which he edited with such conspicuous success. The Fellows of the Society generally, but more especially the members of the Council, over which he presided from the first with that gentleness which characterised him, will feel that they have sustained a great personal loss through his premature death. The greatest sympathy will be felt for his family and immediate connections.

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THE Society has been peculiarly unfortunate in the losses it has sustained since its inception. The first President, Dr. Lewis, of Folkestone, had only just completed his year of office when death deprived us of his valued counsel and genial presence. On the 5th of June last the Society heard with feelings of surprise and regret that the President-elect, Dr. Sinclair Coghill, who had been unanimously voted into that position but four days previously, had passed suddenly away. It is now our unpleasant duty to chronicle a loss which is probably the greatest which the Society could have sustained. A biographical notice and portrait of the late Dr. Hyde will appear in our next issue.

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WE are glad to hear that the deservedly popular town of Ilfracombe has decided to promote a bill in Parliament for obtaining a supply of water from Exmoor, at an estimated cost of £44,000. The want of enterprise, amounting in many cases to a complete absence of the instinct of self-preservation, which characterises the government of some of our health resorts, is responsible for much of the want of patronage of which these

resorts complain. Medical men in large towns have learnt by experience to be very careful about recommending their patients to places where the drainage and water-supply "might be better," and local governing bodies will have to face the fact that though a stationary or retrograde sanitary policy may mean low rates, it may spell ruin to the reputation of the place as a resort for invalids.

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JUDGING from a letter addressed to the Urban Council of Falmouth by Sir Joseph Fayrer, which appeared in some of our contemporaries, it is high time that the government of this attractive place were roused to a sense of their responsibilities in matters sanitary. It is not so very long since the south-western districts enjoyed an unenviable reputation in these matters. Following the lead of Sidmouth, whose present prosperity and popularity has more than justified her wise expenditure, many of them have put their houses in order, and others are in process of so doing. One is naturally tempted to enquire "Why tarries Falmouth in the tents of the ungodly?"

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THE medical past is strewn with the corpses of defunct periodicals. The place held in weekly literature by the *British Medical Journal* and the *Lancet* is a redoubt which has been stormed again and again, and always in vain. Hope springs eternal in the human breast, and repetitions of such attempts to win the favour of the professional world can be counted on with something like regularity. The latest announcement is to the effect that a weekly, to be entitled *The Physician and Surgeon*, is shortly to make its appearance. It is to be "well done" all through, well written, well printed, very well illustrated, and to contain as much, if not more, matter than the weeklies above mentioned, and all this is to be obtained for the sum of fourpence.

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THE venture is a bold one. The medical public is highly conservative in its tastes, and however intrinsically good a new paper may be, its lack of the sense of familiarity, enjoyed by the old one, is a serious handicap on its chances of success;



especially if that success is to depend upon the substitution of the new for the old upon the majority of consulting-room tables. The first essential to success is to deserve it, and this we have no doubt the new publication will do.

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THE current number of the *Polyclinic* is issued as a new departure. Its chief objects are to announce the classes and lectures offered at the Medical Graduates' College, and to record the clinical consultations conducted at that institution. It is therefore mainly of interest to those who attend these consultations. Useful lectures by Dr. Ord, Mr. Malcolm Morris, and Mr. Hutchinson justify, however, an appeal to a larger public. The other papers are of very unequal merit. Some of the so-called clinical lectures are little more than paragraphs rearranged from the text-books. The case records, too, are in many instances incomplete and superficial, and therefore useless. In more places than one there are evidences that the new editor is not yet quite firm in his seat. This is perhaps especially seen in the "reviews" of books, where are to be found some choice specimens of "English as she is wrote."

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THE increasing extent to which neurology claims the thoughts and attention of medical men is well evidenced by the amount and excellence of the work which is now being done in that department. The special organ of the Neurological Society of London—*Brain*—presents its readers every quarter with matter of deep interest and importance. The current volume (winter, 1899, Macmillan & Co.), is one of the best that has recently appeared, which is saying a good deal. The number of its excellent plates alone would make it a valuable possession, while its letterpress is instructive in the highest degree.

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*The Journal of Tropical Medicine* continues to do useful work. At a time when so many of our troops are engaged in a trying war in a sub-tropical climate it is surely unnecessary to dwell upon the importance of the efficient study of tropical diseases to an empire such as ours. Facts are by no means wanting to prove that there is nothing in a tropical climate *per se* to make

it uninhabitable for the white man. The factors which render such climates so deadly are to be sought, not so much in the meteorological conditions, as in the diseases which lurk there. To these, microbic and otherwise, the white man presents a virgin soil—he has received no protective toxins by hereditary transmission—and he succumbs. It is argued that if these diseases are sought out and studied as efficiently as smallpox and typhoid have been studied at home, then Omdurman and Fashoda may turn out to be as salubrious as Margate. The School of Tropical Medicine and *The Journal of Tropical Medicine*, are both doing admirable pioneer work in this direction.

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*The Practitioner* continues to maintain the high standard to which its readers have become accustomed since the present editor assumed the reins. The plan now adopted of having each month a symposium on some subject of importance is not only highly instructive at the time, but it renders the files of the paper an exceptionally valuable storehouse of information. The monthly review of progress in the special departments of medical and surgical science is also a highly valuable feature of *The Practitioner*, and one which is admirably worked. Where all are so good it is not invidious to single out particular writers for special praise; we have, therefore, no hesitation in calling attention to the contributions to neurology by Dr. Risien Russell and to those to laryngology by Dr. St. Clair Thomson, as models of what such contributions should be.

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*The Medical Review (Medical and Surgical Review of Reviews)* whose epitomising work is such a boon to the over-worked and much be-magazined practitioner, has not altered its aims or its very praiseworthy method of attaining them. The curtailment of the title is a change which the Editor must have been glad to make, and one for which his readers, and especially his correspondents, must be profoundly thankful. The weak point about such a paper is that it is almost impossible to avoid erring in one of two directions. Either the ordinary reader is given more than he can comfortably digest, or the seeker after the developments in the special departments will not be sufficiently catered for. A

*juste milieu* has, and can have, no existence. It must be a case either of judicious selections or the *Index Medicus*. The selections are always as judicious as human foresight can make them, but to the specialist the omissions are many.

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*The Medical Magazine* has commenced a new year. We have felt some interest for the paper because, alone among medical publications, it presents a title-page with some aspirations after the artistic. The fulfilment is, it is true, rather elemental, but the taste deserves encouragement. There seems to be no reason why medical journalism should be wholly divorced from decorative art. The *Magazine* appears to be largely given over to medical politics, a subject which does not present attractions to the best class of professional men. On the whole, the utility of the paper is doubtful and its attractions few.

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THE real *Index Medicus* has unfortunately departed this life. The undertaking was a large one, and appealed probably to the few only. To those few it was, however, of inestimable value, and those who had learnt to appreciate its absolute reliability will miss it sadly. We are, nevertheless, it appears, to be provided with something in its place. From Paris, 93, Boulevard St. Germain—telegraphic address, APS, Paris—we have received a circular announcing that the work of the Index will be carried on by a French firm under the name of *Bibliographia Medica*—“publication consacrée à la bibliographie internationale des sciences médicales, sur le modèle de l'Index Medicus américain, dont elle continuera les traditions scientifiques.” The first number is to appear immediately.

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WE are requested by the International Congress of Medical Electrology and Radiology to make the following announcement :—

“At the request of the French Society of Electrotherapy and Radiology, the International Congress of Medical Electrology and Radiology, the initiative of which it has taken, is connected to the International Congress of 1900.

“A Commission, which is composed of : Messrs. Weiss, Professor at the University of Paris, President ; Apostoli and

Oudin, Vice-Presidents; Doumer, Professor at the University of Lille, General Secretary; Moutier, Secretary; Boisseau du Rocher, Treasurer; and of Messrs. Bergonié, Professor at the University of Bordeaux; Bouchacourt, Branly, Professor at the Catholic Institute of Paris; Larat, Radiguet, Villemin, Surgeon of the Hospitals of Paris; has been asked to assure its organisation.

"This Congress will take place in Paris, from the 27th of July to the 1st of August, 1900.

"All inquiries for further information must be forwarded to Prof. E. Doumer, General Secretary, 57, Rue Nicolas-Leblanc, Lille."

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THE Honorary Librarian, Dr. Morgan Dockrell, has at his own expense taken a room at 52, Mortimer Street, W., in which to house the library of the Society. This great convenience was recently offered to the Council, by whom it was gratefully accepted. The Library, from very small beginnings, is now assuming considerable proportions. The books have been admirably catalogued, and any Fellow desirous of consulting them can do so on making application to Dr. Morgan Dockrell at 9, Cavendish Square.

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WE have received copies of meteorological reports from Dr. Strachan, chief medical officer of Lagos; from the Chief Secretary of Cyprus; from our Malaga correspondent and from the authorities in the Straits Settlements. Copies of such reports are always very welcome, and we wish more of our readers would make a practice of sending them. Another class of reports in which we are much interested are those which the Medical Officers of Health, urban and rural, annually make to their respective authorities about this time of year, and we should be much obliged if each Fellow would make a point of forwarding that which refers to his district as soon as it appears.

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As many of our Fellows complain that, from having mislaid them or other cause, they are without the rules which govern the Society, we are this quarter publishing the rules in full. This necessitates the exclusion of much interesting matter, which we hope to incorporate in a future issue.

## LAWS OF THE BRITISH BALNEOLOGICAL AND CLIMATOLOGICAL SOCIETY.

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### OBJECTS AND CONSTITUTION OF THE SOCIETY.

1. This Society shall be designated The British Balneological and Climatological Society, and shall consist of President, President-Elect, Vice-Presidents, Chairman of Council, Treasurer, Secretary, and Elective and Honorary Follows.

2. The Society shall be incorporated under the Companies Act, 1862, as amended by the Act of 1867, Section 23.

3. The Society is founded to provide means for the association of medical practitioners connected with British Health Resorts, and to promote good fellowship amongst themselves and with members of other branches of the medical profession.

4. To encourage the theoretical and practical investigation and study of balneo-therapeutics and medical climatology.

5. To advocate and sustain within the profession the interests and claims of British balneology and climatology.

6. With a view to promoting these objects, to

(a) Hold periodical meetings for discussions, reading of papers, lectures, &c.

(b) Publish the transactions of the association.

(c) Publish a journal.

(d) Found a library.

7. Subscribing Fellows must be duly registered medical practitioners, but no one shall be a Fellow or eligible for election as such who is practising as a Homœopath, or engaged in carrying on, or assisting in carrying on, any form of irregular practice, or who is resorting to any method of procuring patients or practice which are derogatory to the practice of Medicine, Surgery, or Obstetrics as a profession.

And the Council shall have power at any time to remove from the Roll of the Society the name of any Fellow who shall be proved to have transgressed, or be transgressing this law.

8. Medical practitioners not connected with Health Resorts,

but who are known to take a sufficient interest in the subjects of balneology and climatology, may be elected Fellows of the Society.

9. Distinguished members of the medical profession not practising at, or connected with British Health Resorts, and persons of eminence in other departments of science connected with balneology and climatology, who are known to the Council to take an interest in the scientific aspects of balneology and climatology, shall be eligible for nomination as Honorary Fellows.

10. Members of the medical profession residing abroad, who are not British subjects, shall be eligible for nomination as Corresponding Fellows.

11. Whenever in the Laws of the Society the word or words "Honorary Fellow," "Fellow," "Candidate," or "Visitor" may occur, such word or words shall signify a person of the male sex only.

#### ELECTION AND ADMISSION OF FELLOWS.

12. Every candidate for the Fellowship shall be elected by ballot at an ordinary meeting of the Society, and the votes of three-fourths of the Fellows voting shall be necessary to the validity of an election, not less than ten Fellows being present and recording their votes.

13. Every candidate for admission as a Fellow shall be recommended in writing by three subscribing Fellows to two of whom he is personally known.

14. The recommendation shall be read by the Chairman at an ordinary meeting, and shall be suspended afterwards in the library, or otherwise made accessible to the inspection of Fellows, until the next ordinary meeting, when the ballot shall take place.

15. Fellows not residing at Health Resorts shall be elected in the same manner as ordinary members, except that the recommendation shall be made by the Council.

16. Honorary and corresponding Fellows shall be elected in the same manner as Fellows, except that the recommendation

shall be made by the Council. They shall not be entitled to hold any office (except that of Honorary President or Vice-President), to vote, or to take part in the management of the Society.

17. No Candidate who has been unsuccessful at the ballot shall be eligible for re-nomination within twelve calendar months succeeding the said ballot.

18. Each elected candidate (excepting Honorary and Corresponding Fellows), having paid his entrance subscription, shall be admitted at an ordinary meeting, and shall sign the following obligation, viz. :

We, whose names are hereunto subscribed, promise that we will observe and obey the Laws and Regulations of the British Balneological and Climatological Society, and endeavour to promote its honour so long as we shall continue Fellows thereof.

#### THE CONTRIBUTIONS OF FELLOWS.

19. The annual subscription of Fellows shall be ten shillings and sixpence, payable in advance, and shall become due on the first day of October in each year.

20. Any fellow whose subscription is six months in arrear shall be reminded of the same by the Treasurer, and if it be not paid within the following year the Council shall remove his name from the list of Fellows.

21. The composition fee for a life subscriber shall be twelve guineas ; after five subscriptions have been paid, ten guineas ; after ten subscriptions have been paid, eight guineas ; after fifteen subscriptions or more have been paid, five guineas.

#### THE WITHDRAWAL, REMOVAL, AND RE-ADMISSION OF FELLOWS.

22. A Fellow may withdraw from the Society, with the consent of the Council, by giving one month's notice in writing of his intention and paying all moneys due by him to the Society.

23. The expulsion of a Fellow can take place only at a Special

General Meeting of the Society convened by the Council for the consideration of the case ; three-fourths, at least, of the votes cast being for the expulsion, and not less than forty votes being recorded. The Council shall give at least fourteen days' notice of such meeting to all Fellows of the Society. A Fellow who has been duly expelled shall thereby forfeit all claims upon the Society.

24. It shall be competent for the Council to remove from the Roll of the Society the name of any Fellow whose name has been removed from the Medical Register by the General Medical Council, without calling a Special General Meeting of the Society.

#### OFFICERS.

25. The following officers shall be elected from among the ordinary Fellows of the Society, viz. : a President of the Society, a President-Elect, Vice-Presidents, a Chairman of the Council, a Treasurer, two Secretaries, and thirty other Fellows of the Society.

26. The Council shall consist of Fellows practising or residing in British Health Resorts, but Fellows residing in other localities may be elected to the Council, if the Society see fit, in a proportion not exceeding one-eighth of the whole Council.

The Council may elect an Honorary President and Honorary Vice-Presidents.

27. The PRESIDENT of the Society shall be elected annually, at the Second General Meeting in May or June, and shall enter upon the duties of his office at the First General Meeting in October following, and until then shall bear the title of *President-Elect*. The President and President-Elect shall be *ex-officio* members of all committees and sub-committees of the Society.

28. The CHAIRMAN OF COUNCIL shall be elected by the Council, and shall hold office for three years. He shall preside at all meetings of the Council, and in his absence the chair shall be taken by a Vice-President or other member of the Council.

29. The TREASURER shall be elected at the Second General Meeting in May. He shall hold office for three years, and shall be *ex-officio* a member of the Council.



The Treasurer shall keep a separate banking account in the name of the Society, and shall account to the Council for all moneys received or expended by him on behalf of the Society ; all accounts to be passed by the Council before being paid by the Treasurer. His yearly accounts shall be duly audited by two auditors, and after being approved by the Council shall be presented with its report to the annual meeting of the Society.

30. The Honorary SECRETARIES shall convene and attend all meetings, record the proceedings, conduct the correspondence of the Society, and prepare the annual report for the Council. They shall be elected at the Second General Meeting in May. They shall hold office for three years, and shall be *ex-officio* members of the Council.

31. The Chairman of Council, the Treasurer, and the Secretaries shall be eligible for re-election at the expiration of their terms of office.

#### THE COUNCIL.

32. The Council shall be elected annually at the Second General Meeting of the Society in May or June, and shall take office at the First General Meeting in the October following.

33. The management of the Society shall be vested in the Council, which shall consist of the President, the President-Elect, the President of Council, twelve Vice-Presidents of the Society, the Treasurer, the Secretaries, and thirty other Fellows of the Society.

34. The Council shall provide a suitable place for the meetings of the Society.

35. The Council shall be empowered to frame bye-laws from time to time for their guidance and for the welfare of the Society, and also make such regulations and perform such acts as may be consistent with the spirit of the laws and be conducive to the objects and prosperity of the Society.

36. The Council shall annually prepare a report of the general state and proceedings of the Society for the past year, to be presented by them at each General Meeting in June.

37. The Council shall meet not less than four times a year.

Three members shall form a quorum. A record of the attendance of each member of the Council at its meetings shall be kept and published in the Transactions of the Society.

38. The President of Council may, if he think fit, and upon receiving a requisition, signed by not less than ten members of the Council, and specifying the business for which a special meeting is required, shall call together a special meeting thereof, but at such meeting no business shall be transacted other than that for which such special meeting was called.

39. The Council shall direct the publications of the Society, and shall take cognisance of any matter which may require immediate decision.

40. The Council shall appoint all standing committees, and shall have power to appoint at any time any special committee that it may think desirable, and to appoint on such committee any Fellow of the Society whether a member of the Council or not.

#### THE TRUSTEES.

41. All Books, Furniture, Fixtures, Stock in the Public Funds, and all other property of the Society shall be invested in the names of at least three Trustees, to be called "The Trustees of the Personal Property," in trust for their respective uses and purposes.

42. In the names of these Trustees, under the direction of the Council, all leases, agreements, and investments shall be made.

43. The Trustees shall not be held responsible for any damage or loss whatsoever which may befall or happen to the books or furniture or other effects of the Society.

44. The whole Personal Property is subject to the disposition of the Council, and an extract from the Minutes of Council, signed by the Chairman, and countersigned by the Honorary Secretaries, shall be obligatory upon, and full authority for, the Trustees.

45. The Trustees of the Personal Property shall be elected by the Council from among the Fellows of the Society, and the

appointment shall require the confirmation of the next General Meeting of the Society.

46. Any Fellow holding the office of Trustee shall, on his resignation of the Fellowship of the Society, or his removal therefrom, cease to be a Trustee.

47. After the death, resignation, or disqualification of any of the Trustees of the Personal Property of the Society, the Council shall forthwith fill up the vacancy.

48. The several Trustees shall be *ex-officio* members of the Council.

#### PAYMENT OF OFFICIALS.

49. No salaried official shall be a Fellow of the Society.

50. The Council shall have power to employ paid secretarial, or other assistance, to the honorary officers of the Society when deemed necessary.

#### MODE OF ELECTION OF OFFICE BEARERS AND COUNCIL.

51. The President, together with four Vice-Presidents and ten Councillors who have attended the fewest meetings of Council, shall not be eligible for re-election to their respective offices for one year, but the retiring President, together with the four retiring Vice-Presidents, shall become Vice-Presidents for life, without seats on the Council (unless re-elected to the Council by the Society), so long as they shall remain Fellows of the Society.

52. Only Fellows residing at, or connected with, reputed British Health Resorts, shall be eligible for the office of President, and no two Presidents shall be chosen from the same Health Resort within five years.

53. The Council shall have the power of filling up any vacancies in the Council between the general meetings.

54. A balloting list shall be prepared, consisting of three columns, one containing the names of present officers and members of the Council, denoting those who are ineligible for re-election, a second containing a list of members recommended for office by the Council, and a third with blank spaces, in any of

which Fellows may write the name of a Fellow they may select for office in the place of the corresponding name recommended by the Council, provided such names have been forwarded to the Secretaries at least six clear days previous to the date of the ballot, together with the names of the proposer and seconder. It shall be the duty of the senior secretary to see that the name of such candidate, with the office for which he is nominated, together with those of his proposer and seconder, is sent to all Fellows at least three clear days before the general meeting. Only such names, in addition to those nominated by the Council, shall be eligible.

55. A special summons, enclosing the balloting list, shall be sent to each Fellow at least ten clear days before the meeting of the Society at which the election of officers and Council takes place.

56. At the meeting the President shall take the chair, and shall immediately declare the ballot open, and shall appoint three Scrutineers, whose duty shall be to take charge of the ballot-box until the close of the ballot, which shall remain open one hour, when they shall examine the votes recorded and report the result to the President for announcement to the meeting. Every Fellow balloting shall give his name to the Scrutineers, and afterwards deposit his list in the ballot-box ; but should any Fellow be unable to attend personally, he may return his list (which must not be signed), enclosed in a sealed envelope, with his name inscribed therein, and marked " Ballot " on the outside, to the President on or before the day of election. The President or the Scrutineers shall deposit this list in the ballot-box.

57. In the event of an equality of votes the President shall have a second or casting vote.

### THE MEETINGS.

58. Ordinary meetings for the reading of papers, lectures, discussions, and other scientific work, shall be held between October and June in each year, the dates and times to be arranged by the Council.

59. In addition to the ordinary meetings for scientific work

there shall be two General Meetings of the Fellows every year, one to be held in October and the other in May or June, which shall respectively be called the First and Second General Meetings of the Society.

60. All other General Meetings of the Society shall be Special General Meetings, at which no resolution or amendment shall be considered carried unless at least three-fourths of the votes of Fellows present (and Fellows voting by proxy) are in favour of such resolution or amendment. Any resolution carried at a Special General Meeting, shall require to be confirmed at another Special General Meeting, at which a bare majority shall confirm the resolution passed at the first Special General Meeting. The second Special General Meeting must be held not less than *seven* and not more than *twenty-one* days after the first Special General Meeting. At such Special General Meetings not less than fifteen Fellows shall form a quorum, except in case of meeting under Law 23.

61. Special General Meetings may be held at any time at the discretion of the Council, or upon a requisition signed by not less than twenty Fellows of the Society, the object of the meeting to be stated in the circular convening it.

62. At least seven clear days' notice of any Special General Meeting shall be sent to each Fellow of the Society, stating the matters to be considered, except in case of meeting under Law 23.

63. At any Ordinary or General Meeting of the Society five members shall form a quorum.

64. It shall be competent for the Council to arrange for the holding of a Congress annually, or less frequently, as may appear desirable, the place of meeting to be changed from time to time.

65. At the First General Meeting (October) the following order of business shall be observed :—

1. The minutes of the last General Meeting shall be read and confirmed.
2. The Treasurer's report and balance-sheet, duly audited, for the year ended 30th September, shall be presented.
3. The President shall vacate the chair, and the new officers shall commence their duties.

4. An address by the incoming President shall be delivered.
66. At the Second General Meeting (May or June) the following order of business shall be observed :
  1. The minutes of the last General Meeting shall be read and confirmed.
  2. The election of officers and Council for the year commencing in October following shall take place.
  3. Reports on the state and prospects of the Society and of the work of the past year shall be presented by the Council.
  4. Appointment of two auditors to audit the accounts for the year ending the 30th September following.
  5. Alterations of, or additions to, the Laws of the Society may be made according to Laws 71 to 73.

#### TRANSACTIONS AND PUBLICATIONS OF THE SOCIETY.

67. The Transactions of the Society shall be printed at such times and in such manner as the Council shall direct.

68. The Council shall be empowered to publish a periodical journal for the advocacy of British balneology and climatology at such times and in such manner as they deem fit.

69. One copy of each publication of the Society shall be supplied to each Fellow gratis, provided his subscription be not more than three months in arrear, and that the funds of the Society permit of such gratuitous supply. If deemed necessary, the Council may fix a charge for the supply of any publications to Fellows.

#### COMMITTEE OF REFEREES ON COMMUNICATIONS AND PUBLICATIONS.

70. Twelve Fellows of the Society shall be annually appointed by the Council to constitute a Committee of Referees, who shall, when requested by the Chairman and Secretaries, report confidentially to the Council on the suitability of any of the communications offered to the Society, and shall also, when similarly requested, report as to the desirability of publishing a communication in the Transactions.

## THE MAKING, REPEALING, OR ALTERATION OF LAWS.

71. No new Laws shall be enacted or old ones repealed or altered except at the Second General Meeting of the Society, or at such Special General Meeting as shall be summoned for the purpose.

72. All proposed changes in the Laws shall be specified in the notice calling the meeting at which it is intended to submit such proposed changes.

73. No alteration of the Laws at the Second General Meeting shall be valid unless three-fourths of the Fellows voting ballot in its favour ; not less than twelve Fellows being present and recording their votes.

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BRITISH BALNEOLOGICAL AND CLIMATOLOGICAL  
SOCIETY.

THURSDAY, JANUARY 25.

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TREATMENT OF NERVOUS DISEASES BY BATHS  
AND CLIMATE.

BY DR. HARRY CAMPBELL.

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IN the present state of our knowledge it is scarcely possible to discuss the treatment of diseases of the nervous system by baths and climate in a systematic way. My observations will, therefore, I fear, be somewhat disjointed.

*Effect of Change of Air.*—I will first draw your attention to the well-known therapeutic effects of mere change of air. On no class of disorders does such change produce a more striking effect than upon functional nervous disorders. To mention a case in point. A woman suffers from neurasthenic headache which obstinately resists every kind of treatment at home; she is sent away for change of air, and the headache disappears immediately. This is often the most potent agent we can employ for obstinate headache. Now in these cases it is not necessarily because the place to which the patient is sent has specific curative virtues that good results, although such may be the case, but it may simply be because the climatic conditions are different from those at home.



The therapeutic effect of change of air is a not unimportant factor in Spa treatment. How this change benefits we cannot at present say. I have been in the habit of associating the phenomenon with the wandering habits of our remote ancestors. They were not tied to one spot, but wandered about with their flocks from place to place. But this is at best only a partial explanation.

*The Influence of Open-air Treatment.*—We hear a great deal now-a-days of the open-air treatment of phthisis; but there are many other diseases which are equally benefited by this treatment. Foremost among these are nervous affections—above all, the functional ones. Few things are more calculated to make a person nervous than an indoor life, and on the other hand, there is no more powerful nerve tonic than fresh air. Our ancestors have for millions of years, and until within quite recent times, physiologically speaking, lived in the open, which still constitutes man's normal environment. One of the greatest advantages of Spa treatment is that it encourages an open-air life.

*Toxines in Nervous Affections.*—I will now refer to the part played by toxines in the pathology of nervous affections, inasmuch as a consideration of this subject helps us to explain how treatment by baths and climate may do good in these disorders. Toxines circulating in the blood are accountable for many of the phenomena of disease. This is especially true of nervous disease. Just as strychnine, atropine, and curari have a selective influence on the nervous system, acting on certain parts and not on others, so likewise have the manifold toxines met with in disease. The effect of such toxines is generally in the first instance purely functional, *i.e.*, they produce altered function without any discoverable lesion; thus are produced headache, giddiness, lassitude, mental depression, numbness, palpitation, transient paralyses (as of the ocular muscles in loco-motor ataxy) and a multitude of other symptoms which nervous people complain of. By dint of continual action, however, through weeks, months, or it may be, years, structural change may be gradually set up by these toxines, as happens, *e.g.*, in alcoholic and diabetic neuritis—due to the alcoholic and diabetic toxine—in loco-motor ataxy and general paralysis of the insane,

in both of which the toxine is practically always syphilitic. Probably primary lateral sclerosis, bulbar paralysis, and many other degenerative lesions of the nervous system, arise in a similar way; the rôle of toxines in neuro-pathology is, in fact, immense.

Now what bearing, it may be asked, has all this on the subject of our discussion? A great deal, I think; for it is certain that by baths and climate we can profoundly influence metabolism, and thus also the toxicity of the blood. Let us take a simple instance. It frequently happens that when a person, living inland, goes to a sea-side place he gets bilious; his liver apparently gets sluggish, poisons accumulate in the blood and give rise to many unpleasant symptoms. Climate has indeed a potent influence on all the digestive viscera. A chronic dyspeptic may find his digestion quite good in some places, while one with an habitually good digestion may in certain localities always suffer from dyspepsia. Constipation, again, is greatly influenced by locality. Doubtless there are other influences at work besides climate in producing these results, such as food and water; but be the cause what it may, the fact remains that the digestive processes proceed differently in different localities; and what is true of digestion is, I take it, true also of all metabolic processes. Metabolism is, in fact, exquisitely sensitive to environmental influences; so much so, indeed, that it is probably not too much to say that it is never exactly the same in any two localities.

Seeing, then, what a supreme part toxines play in neuro-pathology, and how greatly metabolism, and consequently the toxicity of the blood, is affected by climate and kindred conditions, we are prepared for the conclusion that nervous disorders may be profoundly influenced by Spa treatment.

*The advisability of putting patients through a preliminary course of treatment before sending them away.*—Of the many kinds of nervous affections which benefit by change of air and surroundings, and by specific treatment carried out at health resorts, the purely functional are the most amenable. Among these neurasthenia occupies a foremost place. Often the neurasthenic is much run down; he has perhaps lost weight considerably, has a feeble digestion, little appetite, is sleepless, mentally depressed, and unable to concentrate his thoughts. Now the routine treatment

for this condition, especially when it has resulted from prolonged overwork, is to send the patient away ; he is advised to go for a time to the seaside, to travel, to take a sea-trip, *e.g.*, or even to make a journey round the world. This prescription is, however, a two-edged weapon. Often, indeed, it succeeds brilliantly. I have in my mind the case of an over-worked business man, aged 60 years, who was advised by his physician to take a trip round the world. He started the very next day. The journey was a complete success, and the patient came back feeling, as he said, ten years younger. But the result of travel, or even of leaving home for "a change," is not always so successful. Not only have we to consider the habits, tastes, and idiosyncrasies of the patient, but also whether he has sufficient strength and recuperative power to profit by the altered conditions. I have frequently seen neurasthenic patients made worse by being sent away ; they have exhausted their small store of energy by over activity, irritated and tired out their eyes by sight-seeing, upset their digestion by the altered dietary, so that the last state of the patient has been worse than the first.

In all extreme cases of neurasthenia it is advisable to prepare the patient for the change, the time needful for this preliminary treatment depending upon the severity of the case. Suppose the patient to be greatly emaciated and exhausted, it may be necessary to put him through a six weeks' course of Weir-Mitchell treatment. When it is a question of sending a patient to a watering place, this treatment may of course be carried out there, and may be combined with special local treatment ; and here let me observe that I have not always found the Spa physician enthusiastically disposed to the rest treatment, even when it has been clearly indicated. We are all of us, in all branches of the profession, in danger of getting into grooves, and one of the dangers which beset our path is that we may too rigidly adhere to a routine treatment to the exclusion of other methods.

There is, I think, room for improvement in our British health resorts in regard to the treatment of neurasthenia. In some places on the Continent, the patient is not only put through a definite system in the shape of baths, waters, diet, gymnastic exercises, and so forth, but he is specially catered

for in the way of amusements. The mental side of the patient is attacked; he is, in short, put through a carefully organised system, in which the personality and acumen of the physician play their special part.

Neurasthenics generally do best in a bracing climate, and at high altitudes. On the Continent they seem to do well at Schwalbach and Schlangenbad. I trust we shall hear in this discussion something of the merits of British health resorts in this respect.

*Vascular tension.*—The influence of baths and climate on vascular tension is of great interest to the physician. Some nervous affections are characterised by high and some by low tension. Herein we have a clue to treatment. If, *e.g.*, the patient has an unduly high tension, he may benefit by a line of treatment directed to the lowering of tension. Nervous people often have high tension. I have often pointed out in the out-patient room how frequently nervous men, even in the twenties, show tortuous temporals. It would seem that both the nervousness and high tension are due to poisons circulating in the blood—certainly both are often relieved by calomel.

High arterial tension is also of interest in that it stands in relation to arterial degenerations and cerebral hæmorrhage. Spontaneous cerebral hæmorrhage is now known to be practically always due to miliary aneurysms. We have still much to learn concerning the pathology of these aneurysms. They do not appear to be due to atheroma, which starts in the inner part of the arterial wall, but to disease beginning in the outer part of the wall. Whatever their exact pathology, however, certain it is that long-continued arterial tension favours their production, and that the best way to avert an attack of cerebral hæmorrhage is to keep the blood pressure low. We should always reduce a preternaturally high pressure, not only because it tends to go along with nervousness, but also because it predisposes to cardio-vascular degeneration and hæmorrhage into the brain.

It is for these reasons that the methods of reducing tension are of interest to us, and I hope we shall hear this evening

some observations as to the effect of climate and baths on blood pressure.

*Syphilis.*—Syphilis plays a large part in neuropathology, not only causing gumma of the brain and spinal cord, meningitis, and cerebral thrombosis, but such degenerative diseases as general paralysis of the insane and locomotor ataxy, and whenever in a syphilitic nerve-disease we have reason to suspect that the syphilitic poison is still active we should, of course, choose a health resort where syphilis is specially dealt with.

*Rheumatism and rheumatoid affections in the nervous.*—In a paper recently published in our JOURNAL I pointed out that patients who have had rheumatic fever are frequently nervous, that those with well marked rheumatoid arthritis always are; and that in such cases we may cure the nervousness by attacking the rheumatic element. This may be effectively done at certain well-known health resorts. I may now add that the pains of locomotor ataxy are greatly influenced by the weather, being especially increased by cold and damp, a fact to be remembered in choosing a health resort for tabetics; also that many of the degenerative diseases of the nervous system are characterised by the presence of rheumatic pains similarly influenced by the weather. Primary spastic paralysis is a case in point.

*The use of the Ice-bag in nervous affections.*—Some years ago Dr. Day wrote a large work setting forth the virtues of ice, locally applied in the treatment of nervous affections, such as neuralgia and sleeplessness. It will be interesting to hear if anyone present has had experience in this mode of treatment.

*Baths.*—The influence of baths in nervous affections is a subject that should especially engage us this evening. The Turkish bath is sometimes of use in removing the spasm of lateral sclerosis. In neurasthenia the abdominal douche is of use. I am enabled, through the kindness of Dr. Edward Blake, to say that Dr. George Oliver places great reliance upon the abdominal douche at the end of an Aix douche, in the treatment of this affection.

*Rest an important element in the treatment of most nervous affections.*—It is important to remember that, with the exception

of a few diseases, such as epilepsy, and gouty nerve affections, most nervous patients benefit by rest rather than by active exercise, and that the highly nervous should generally be encouraged to rest as much as possible when sent to a health resort. This applies alike to functional and organic diseases. Fatigue may prostrate a neurasthenic patient, and may aggravate the symptoms of loco-motor ataxy—it may, indeed, determine the onset of the disease.

Severe exposure, too, is bad in most nervous affections, and may actually excite the onset of loco-motor ataxy, progressive muscular atrophy and other chronic spinal diseases.

The time I have allowed myself has now expired, and I will finish by asking members how far, in their experience, the following disorders are amenable to climate and Spa treatment: sleeplessness, neuralgia, megrim, Grave's disease, epilepsy, chronic alcoholism and morphomania.

Dr. SYMES THOMPSON said he had listened to Dr. Campbell's paper with great pleasure, because it was very suggestive and brought into greater prominence than he had hitherto heard it brought, the deep and intimate relation which so many nervous affections bore to toxines. The tendency to regard many diseases as due to bacteriological action was increasing. Rheumatism and rheumatoid arthritis were both regarded in that light, and so it was no wonder, and only natural, that they should have their attention drawn to the value of climate and bath treatment in dealing with those diseases. He had not long been accustomed to regard those diseases from that point of view, and was therefore not prepared to enter into that question; but, as regarded the clinical aspect of the case, no one could doubt for a moment that the value of climate and bath treatment was very great indeed. A large number of these cases were of a chronic character, and were associated with a long continuance in some vicious habit which had deteriorated the health and powers of resistance. That being the case, what more natural in theory, and what more true in practice, than the fact that by entirely removing the patient from his normal surroundings and putting him under new conditions they would look for a marked change for the better? He felt that medical men in this great

city, who were so engrossed with the many cases which came before them, were exceedingly comforted to think that they could transfer their patients to the quiet and peaceful atmosphere of a Spa or a choice climate, and to those who would carefully and watchfully supervise every detail and see that the hygienic conditions were such as to secure a satisfactory issue. He supposed that as years went by they would depend less upon drugs and more upon environment. A climate chosen in relation to the constitutional conditions of the patient was one important factor; the use of baths was another factor of the greatest value, and a third factor was the patient care which the physicians in these health resorts devoted to the treatment of the cases put under them. These three things were so important that, in a large majority of cases, they were sufficient to do what was needed, and when the disease was in the functional rather than the organic plane, then they would look for a speedy restoration. But even when organic alteration had taken place, he believed they would find the advantage was great and would be continued on the return to home conditions. Some three or four years ago he wrote a paper on the Climate of Egypt, after his second visit to the Nile, in which he pointed out that the exceedingly restful and peaceful conditions existing there were calculated to remove chronic affections of the nervous system. He believed there was something in the Egyptian climate and in the restfulness of the life in those comfortably arranged hotels which was immensely helpful in chronic cases of organic affections.

Dr. KINGSCOTE remarked that what he had to say would be regarded rather as a side light upon the subject under discussion; it was with regard to the influence of altitudes on certain stages of nervous disorders. He had been in the habit for many years of going in the autumn to the Engadine and living at an altitude of 6,000 feet, and he had there had the opportunity of observing many conditions of nervous affections amongst the visitors, and the conclusion he had arrived at was that in cases of hyperæsthetic affections of the nerves high altitudes did harm. For instance, altitudes were very harmful indeed in cases of what was called neuralgia but was really more often toothache; and it was a common thing to hear visitors say to each other, "You

will never get rid of your neuralgia until you run down to Italy." And the first day they arrived in Italy the neuralgia invariably disappeared. But, on the other hand, nervous affections of a lower order, in which paralysis supervened, benefited enormously in these high altitudes. He had himself personally experienced both conditions. He had on several occasions had to bolt from the Engadine to get rid of his neuralgia ; he had also suffered from neuritis of the musculo-spiral nerve, and the consequent paralysis and atrophy of many of the muscles supplied by that nerve ; he had tried every kind of treatment, but nothing did any good until he went to the mountains and lived at a great elevation, and in two or three days the pains went away. The conclusions he had arrived at from his own experience were that, generally speaking, in hyperæsthetic conditions altitudes were bad, whereas in cases of low conditions of the nervous system they did inestimable good.

Dr. RISIEN RUSSELL said he was extremely glad to find that the subject had been brought forward, because from his limited experience in this country he was under the impression that the use of baths in the treatment of nervous diseases was more or less neglected ; at any rate, neglected in comparison with the way in which these things were dealt with on the Continent. Take the organic affections of the nervous system. There was far too great a tendency in this country to regard these conditions as chronic and hopeless ; whereas our continental brethren took up such cases and dealt with them in a systematic manner, and he ventured to say in a manner which resulted in considerable benefit to the patient. Take, for instance, a chronic affection of the spinal cord, such as some form of myelitis, more especially consequent on syphilis ; proper treatment systematically carried out at a Spa, where the patient was under some set *régime*, had been known to result in considerable improvement ; whereas such a patient in this country, as a rule, was allowed to drift on in his helpless condition. Again, take chronic contracture and spasm. Well, they knew that it was a most intractable condition and one for which little could be done ; nevertheless, anyone who tried would be convinced that treatment by warm baths associated



with massage undoubtedly gave the patient great relief, temporary relief it might be ; nevertheless, repeated day by day it ultimately resulted in a considerable amount of benefit to such patients. Baths of course might be abused, but, on the other hand, used in proper cases they might be of great service. Take acute affections of the nervous system. To put a patient with acute myelitis into baths would undoubtedly not be right ; nevertheless, such treatment might be carried out by enthusiasts. On the other hand, take peripheral neuritis in the acute stage ; there undoubtedly bath treatment was of great advantage, especially warm baths, which comforted the patient, and undoubtedly aided in the recovery. Take, again, cases of functional affections of the nervous system. Dr. Campbell had mentioned neurasthenia, and that gave him (the speaker) an opportunity of insisting on one point which he thought ought to be emphasised, viz., that because an affection was labelled as "this" or "that" it did not of necessity follow that one kind of treatment would do good in all cases of that kind. Neurasthenia was an admirable example of a disease which varied greatly in different people, and because one neurasthenic benefited by a certain line of bath treatment was no argument in favour of all neurasthenics being similarly treated ; the patient must be regarded from every point of view. Before passing from that class of case, he might perhaps be allowed to mention one or two points with regard to sexual neurasthenics and the great benefit they derived from treatment by baths. Without going into detail, it might be said that a large amount of good resulted from the local application of baths in such cases. He would next direct their attention to the benefits which resulted in various kinds of nervous diseases by the application of electricity by means of baths. Suppose they wanted to give a person general Faradism, the advantage of giving this treatment by means of baths, especially to a nervous, highly excitable woman, could not be over-estimated. In this connection he would say that where they wanted to stimulate and refresh their patients, general Faradism given in this way was of service ; whereas galvanism given in the same way tended to have a tiring effect on the

patient and induced sleep. These facts indicated the kind of case which required the one rather than the other form of treatment.

Dr. BEZLEY THORNE said that the subject under consideration was the more interesting as it carried them somewhat outside the ordinary field of medical science as generally recognised and practised in relation to nerve diseases, which had been presented to them with special reference to the influences of climate and of baths ; and it would be interesting to inquire whether the effects, which had beyond question been observed to accrue from such agencies, were due to any kind of common action. He thought that they were, and inasmuch as both exercise an influence on blood pressure, and through the peripheral circulation on metabolism and elimination, he felt sure that Dr. Campbell was right in attributing to toxines the dominant influence in the causation of the greater part of nerve diseases, and he would add that a toxic condition of the blood arises whenever the balance between production and elimination is upset in favour of the former, whether as the result of increased production or of deficient elimination.

With regard to climate, it was important to inquire what constitutes a bracing air. He contended that in the main that quality depends on hygrometric conditions ; that, for example, the atmosphere at a temperature of 90° laden with moisture, as it would be in most situations which are largely under the influence of the Gulf Stream, would have a relaxing effect, while at the same temperature in drier regions it would exercise a relatively bracing influence. The relaxing effect of the moist air, especially when warm, might be observed by everyone in the size of the veins at the back of the hand. In fact, under relaxing influences, and in certain conditions of the circulatory organs, a transferable portion of the blood tends to accumulate in the venous at the expense of the arterial circulation, thus leading to auto-toxication. He had frequently observed that a person who had been excreting scanty and high-coloured urine became the subject of free diuresis on ascending to an altitude of not more than 500 feet into a drier air. It had especially to be borne in mind that an altitude of from 5 to 1,000 feet, such

as that of Malvern Hills or of Buxton, may be far richer in health-restoring conditions than one of 3,000 feet in an Alpine district surrounded by a rampart of over-towering peaks.

The influence of baths carefully and scientifically administered was very similar, diminishing peripheral resistance, improving metabolism and promoting elimination. Both agencies could be shown to exercise a marked influence on blood pressure.

Dr. Campbell had invited an expression of opinion with regard to certain affections. With regard to sleeplessness, it might be said that where tension was increased, either by climate or by baths, the tendency to insomnia might be either set up or confirmed for the time being, more especially in those subjects in whom the vascular tissues were deficient in elasticity. It was a matter of observation that such is the effect, in the first instance, when baths produce a notable increase of tension, whereas when, in the presence of a different state of the vascular tissues, the tension is lowered and sleep encouraged. As to megrim, it is frequently relieved by baths and climatic change, in consequence, doubtless, of their influence in improving the digestion and promoting the elimination of toxines.

With regard to Graves' disease, which, as had been recently suggested by an American physician, there is reason to believe is, in a very great degree, a disease of auto-toxication, the benefits to be derived from climate and baths, and more especially from the latter, had now been placed beyond question in the minds of those who had devoted attention to the subject.

As to epilepsy, he held the opinion that baths in particular were of great value. An epileptic seizure was frequently found to be associated with mal-digestion, auto-toxication and a rise of blood pressure; indeed, he thought it probable that the exciting cause of an access might very likely be found to consist in derangement of the balance of the relative pressure of the venous and arterial channels of the cerebral nerve-centres. Such being the case, means so efficacious in regulating blood pressure, preventing auto-toxication, and ensuring elimination, would necessarily exercise a potent influence on the epileptic, more especially when it was considered that baths and exercises, by improving the condition of the heart itself, might contribute to the elimination of the cardiac element of that disease.

Dr. KARL GRUBE (Neuenahr) said he was surprised that one could find very little in any hand-book on nervous diseases which had appeared during the last ten years relating to the connection between therapeutics and nervous diseases. This had always struck him as very remarkable, because they were diseases which could be benefited by balneo-therapeutics. He frequently had English patients sent to him who were suffering from neuritis, especially gouty neuritis, and he had often wondered why such patients were sent abroad when they could be treated equally well in an English health resort. It did not so much matter where the patient was sent, as whether the patient received proper treatment. One important rule in the use of baths was to avoid extremes; he had always found it very injurious, especially in cases of loco-motor ataxy or peripheral neuritis. Patients suffering from these diseases benefited very much from what was called "the indifferent bath," baths the warmth of which corresponded to, or was a little higher than, the natural temperature of the blood. He knew of no drug, except morphia, which would remove the pains of diabetic neuritis so readily as baths which correspond with the warmth of the blood. He had himself suffered from megrim, and always found bath treatment did him a great deal of good.

Dr. FORTESCUE FOX (Strathpeffer) remarked that baths of all kinds produced their chief effect on and through the nervous system; and another general observation, which, perhaps, might be of value in thinking of Spa treatment, was that in all chronic affections, without exception, there was a nervous element, and it was misleading and unscientific to speak of diseases of the skin or of the digestion, and especially diseases of the heart or the circulatory system, without acknowledging that in those diseases there was an essential nervous factor. He would frankly say that he had never seen benefit from the use of baths in confirmed and decidedly structural nervous diseases, such as cases of confirmed sclerosis or any form of spinal atrophy; but, at the same time, he was equally convinced that in almost all nervous affections there was an earlier stage in which their progress could be, to a certain extent, controlled by climate and by baths; and he thought that one of the most

encouraging and satisfactory features of their discussion was the fact that there was such a unanimous expression of opinion that nervous disorders could be so benefited.

Dr. LEON (Sidmouth), referring to baths, said there were one or two nervous conditions, more particularly local nervous complaints, which in his experience had been benefited by baths. One of the after effects of influenza was a constant pain at the back of the neck, and he had found that pain frequently removed by douche baths applied to the spine and the back of the neck. He did not think one could lay down a hard and fast rule with regard to temperature, but at any rate to commence with the bath should be rather stimulating. With regard to neurasthenia, he quite agreed with Dr. Risien Russell that it was quite impossible to lay down any absolute method of treatment for a disease so different in its manifestations. Some cases of neurasthenia were benefited by a shock ; and again, change of climate was also beneficial in some cases.

Dr. FLETCHER BEACH made a few remarks confirming what had been said by Dr. Russell and others. He alluded to the great benefit which the open-air treatment had in mental cases, especially melancholia. Speaking on the subject of baths, he said he thought it would be a great advantage if our hospitals in London were furnished, as many hospitals on the Continent were, with not only Turkish baths, but with douche, vapour, and baths of every description.

It was then moved by Dr. LEONARD WILLIAMS, and seconded by Dr. SUNDERLAND, that owing to the lateness of the hour further discussion upon the paper be postponed till the next meeting. This was unanimously agreed to, and the proceedings terminated.

# BRITISH BALNEOLOGICAL AND CLIMATOLOGICAL SOCIETY.

MEETING, THURSDAY, MARCH 8, 1900.

RESUMED DISCUSSION ON DR. HARRY CAMPBELL'S PAPER,  
ENTITLED "TREATMENT OF NERVOUS DISEASES BY BATHS  
AND CLIMATE."

Dr. IVOR MURRAY in the Chair.

The PRESIDENT said that since the last meeting they had to regret the death of a very prominent member of the Society. Dr. Hyde, who from the first had taken a very active part in their proceedings, had passed away from among them; and he thought it was only just that they should, on that occasion, express their great regret and sympathy with his family. He proposed a vote of condolence with the family of the deceased, and felt that all present would agree to it.

Dr. SNOW (Bournemouth) said he much regretted the occasion for seconding the vote of condolence which the President had proposed. An inscrutable Providence had removed Dr. Hyde from among them, in the prime of his life and of his usefulness. Only those who had worked with him on the Council knew how great had been the loss to the Society which was caused by his death. Possibly, arrangements had been made whereby the loss to the Society might be alleviated, but what could not be alleviated was the sense of loss to those who had been accustomed to his geniality as Chairman of Council and in all their intercourse with him. However successful they might be in finding those who were competent to take his place, they must all feel they had lost a friend personally and a good friend to the Society.

The resolution was duly carried in silence.

The PRESIDENT gave a *resumé* of the previous discussion on the subject, for the benefit of those now present who did not hear that debate. He called upon Dr. Leonard Williams to resume the discussion.

Dr. LEONARD WILLIAMS (in reopening the discussion) said :

The accepted therapeutics of disease of the nervous system, judging by the text books and the practice at the special hospitals, seems, for the most part, to be frankly expectant. In cases where it ventures into the domain of the active, the measures which are employed, in my experience, are drugs and electricity. The latter is, of course, most valuable. Of the former, only arsenic and strychnia, on the one hand, and the bromides, iodides, and valerian on the other, seem to command any confidence. Of the value of these in suitable cases there is no manner of doubt. But when we come to examine the suitable cases we find that they are mostly those of the functional type—neuralgia, neurasthenia, hysteria, chorea and the like. In the treatment of the graver forms of disease, tabes, disseminate sclerosis, G. P. I., and the like, hospital physicians unanimously confess themselves beaten. The question which concerns us here is whether or not the resources of the physician in the present state of our knowledge are exhausted. Has everything been tried which offers even a remote prospect of success, or must we wait for fresh light from the pathologist before making further efforts?

It is probably safe to say of any disease in this country that its treatment by climate alone, or by baths alone, or by both combined, has not received a very exhaustive or whole-hearted trial. If we want to know what has been done in such matters we must go to Germany. If we take tabes as the type of the intractable disease of the nervous system, we find that Braun, in his book on bathing, distinctly says that cases have been very favourably influenced by indifferent thermal or warm baths. "Recent cases are cured or essentially improved; cases of longer standing are temporarily improved, or their advance is checked for a time; some of the symptoms become mitigated, especially the pains, sleeplessness and weakness of the bladder." This conclusion is arrived at from an experience of 500 cases treated at Oeynhausen in Westphalia, situated on the Werra, 230 feet above the sea, in a broad, fertile valley. Inasmuch as the balneological processes employed are not exhaustively dealt with—it is merely stated that the water should be between 75° and 90°, and that its mineral constitution is not important—it is perhaps fair to enquire how much of the success was due to the bathing

and how much to the climate and concomitant circumstances. I should be the last to belittle the good effect of baths, but in these cases I believe them to be of subsidiary importance only.

Speaking generally, the grosser forms of nervous disease are affections of city life. Again, taking tabes as the type, it may be said to be essentially a disease of the large civic centres, and it is reasonable to suppose that if the causes which produce it are removed, the condition may become ameliorated. Of course I may here be asked how I propose to remove the effects of syphilis by climatic treatment. To which I would reply, that though there may be a causal relationship between syphilis and tabes, that relationship is not by any means universal. I know of two cases, as well authenticated as any can be, both of them in medical men, neither of whom would have equivocated on the subject, where tabes, with all its classical symptoms of eye phenomena, rhombergism, lightning pains, girdle sensation and ataxy were present, without any history of syphilis. Both these men had busy practices in populous centres and both relinquished them to live in quiet country towns. One of them made a perfect recovery, and the other is, I understand, very much better, and now actively engaged in practice.

Now the explanation of these two cases is clearly one of two. Either the non-syphilitic tabes is a very much more tractable disease than the syphilitic variety, or the treatment of the condition by pure air and other conditions of country life is more efficacious than that usually adopted. The first alternative need scarcely detain us. If we know anything of syphilis we recognise in it one of the few diseases in which we possess a specific remedy for nine-tenths of its manifestations, and as a cause of manifestations nothing in the way of disease is more removable. Moreover, non-syphilitic tabes, of which even Sir William Gowers would probably admit the existence of a few cases, does not seem to be any more amenable to drug treatment than the syphilitic variety. We are, therefore, driven to our alternative explanation of the successful issue of these two cases, namely that change of surroundings from an active, busy city life, to the pure air and comparative philosophic calm of a country existence, which may be called climatic treatment. And such an explanation is in full



accord with the cases cited by Braun. His book deals exclusively with baths and waters, but we need not therefore be oblivious of the fact that his cases include of necessity the change of conditions which we understand by climatic treatment. What that change is I do not presume to say, but I can affirm that cases of classical nervous disease—apart from hemiplegia—have practically no existence in a great many country districts.

This is true—in at least one place—of such a common complaint as epilepsy. During my nine years' residence in Sidmouth I saw very few cases of this disease, but one of them in a visitor impressed me profoundly. He had not only the *grand mal* but also the *petit mal*, which, as I need not remind you, does not enhance the prospect of improvement and renders the chances of recovery gloomy indeed. When he arrived he had been taking 90 grains of bromide in the day for over six weeks, and had nevertheless suffered from at least one fit each week. On account of the rash of which he complained very much, I reduced the dose to 30 grains in the day, and although he was under my care for four months, he never had a convulsive seizure, though the minor attacks continued. When he had been back in Birmingham a week, his fits returned even more actively than before. Now I do not go so far as to say that the immunity enjoyed by this patient was due to climate, but I think we should be turning a blind eye to a possible explanation if we exclude it altogether from the consideration of the question.

Considering our helplessness in so many forms of nervous disorders, and the increasing number of such disorders which come before us, it is clearly high time that something was attempted in the direction of increasing our resources for combating them. That these resources may be increased by an organised endeavour to extract some of Nature's secrets in the matter of the effects of climate, both in producing and relieving these diseases, I, for one, am a firm believer.

Dr. ALEXANDER MORRISON said he had not the advantage of having been present at the previous meeting, and therefore was grateful for the President's *résumé* of the discussion. He feared he was in the position of those hospital physicians who were somewhat sceptical of the cure of organic central lesions, though

he was extremely interested in hearing of the two cases mentioned by Dr. Leonard Williams. The discussion, however, was of the widest imaginable ; the treatment of diseases and affections of the nervous system was about as wide a subject to debate as could occur. The treatment of such conditions by balneological processes introduced the four elements of primitive philosophers—air, earth, fire and water ; that was, they had to deal with the mineral constituents of baths, the temperature of baths, and with the geographical situation and altitude of health resorts. He felt somewhat incompetent to enter very much into the matter, because he could not lay any claim to being specially a balneologist. There was no question in his mind that, if they regarded baths and climate as naturally produced conditions—they might call them very superior drugs—they came upon a series of processes which might be extremely useful in a very large number of cases of nervous disease. In all organic action, whether of a central organ or a peripheral one, they had to deal with three elements : (1) with the organic cell ; (2) with the blood supply ; (3) with the nervous causes bearing upon such a cell. He imagined that the efferent nervous system might be regarded in some manner as simulating the process which set cells going and brought them into contact with external organs ; the same tripartite action being operative throughout the whole body. If they granted such a postulate, he imagined that their choice of a particular bathing place for a particular case of nervous disease would be largely dependent upon the predominant factor which was at fault. If a man with a nervous complaint happened to be anæmic, he (Dr. Morrison) would send him to a place which was good for anæmia. If his nerves required stimulating, he would send the patient to a higher altitude ; if he required soothing, to a place with a lower altitude, because he believed the principles of treatment resolved themselves into those which were sedative and those which were stimulating. One great factor in the treatment of all such conditions, in which balneologists at health resorts had a great advantage, was that the patient was absolutely separated, as far as possible, from external circumstances which were detrimental to his organic processes righting themselves in the midst of his occupation. There were

some cases, apart from organic causes, which were absolutely irremediable anywhere—those in which the skies were changed without altering the mental processes. If a man's nervous complaint were dependent upon some fixed moral cause, he might visit any health resort in Europe or Asia without real benefit. Doubtless such cases were outside the present discussion, but the influence of mind upon body was such that it was difficult to exclude it.

When they came to the question of the treatment of organic central lesions, such as those referred to by Dr. Leonard Williams, they touched a very serious matter. Scleroses of the central nervous system were necessarily permanent, and, in many cases, progressive, and he could not imagine it possible that a thoroughly organised inflammatory process, of a more or less progressive character, could be otherwise than checked. He would like to know whether, in the cases mentioned by Dr. Leonard Williams, all signs of those central conditions disappeared, such as the Argyll-Robertson pupil, loss of knee-jerk, &c., or whether there was a general amelioration in the patient's condition and the retention of those evidences of organic disease which they knew, and which, in the experience of most of them, were of a permanent character. If any place could be found which would help the removal of central lesions, it would become a very favourite resort.

A patient going to a health resort ought not to go with any reserve of scepticism in his nature. He believed that faith was a large element in the cure of functional affections, and no medical man who imparted such scepticism to his patient had the interest of that patient really at heart. He thought the medical man should induce the patient to believe, as far as he conscientiously could, that he was likely to derive very much benefit from his stay at the health resort. In the very large range of functional diseases of the nervous system, he was convinced that many patients would recover at health resorts who, at home or away from health resorts, would lead an unnecessarily miserable existence for a long time.

Dr. FELKIN said: I was much interested by Dr. Harry Campbell's remarks in opening this discussion, and I consider

that it is a subject of considerable importance. There can be no doubt that baths and climate do exert a marked influence upon the nervous system and upon nervous affections, and it is doubtful whether they receive at our hands the consideration which is their due. One great point to be considered at the outset is whether it is necessary to send our patients abroad or to select a health resort in Great Britain. Dr. Karl Grube referred with some surprise to the number of patients who were sent to him for treatment, and was struck by the small attention that had been paid in England to the balneological treatment of such cases. Now, it seems to me that there are two reasons why there is such a large exodus of patients to continental health resorts. In the first place, there is the total change of environment, which is undoubtedly very beneficial. Also the patients are not so constantly worried with correspondence as they are nearer home, nor do they suffer from the irritation and excitement of the daily papers as they do at home. But, apart from this, they receive abroad what there is no reason why they should not receive at home—more personal supervision on the part of the Spa physician and more consideration, politeness and real interest on the part of the bath attendants, waiters, &c. In fact, here we have another illustration of the difference between Continental and British mail steamers. On a British mail-steamer the passenger has paid his money and no further interest is taken in him. On a Continental mail-boat he is looked upon as he really is, an employer, and everything is done to make his passage comfortable and pleasant. I cannot help thinking that much might be done to improve British health resorts on these lines.

Dr. Symes Thompson spoke of the indefinite something in the Egyptian climate which was so very beneficial to patients, and I quite agree that many do wonderfully well there, but care is necessary in selecting the cases, and my feeling is that patients sent to Egypt should be sent to one of the sanatoria or for the Nile voyage on a dahabeah (not a steamer), that it should not be forgotten that the new scenes and the climate are apt to be too stimulating at first, and that many patients are greatly retarded in their progress to health by the excitement and sight-seeing in

Cairo. They should certainly be advised to avoid it at first. It seems to me, too, that if the patients are good sailors the long sea voyage is far preferable to the rush overland, and in any case the Brindisi route should be avoided.

In my experience, rheumatism in all its forms, functional nervous diseases and asthma, are especially benefited by a stay in Egypt, and I am inclined to think that camping out in the Desert might be utilised more than it is at present.

Cases of insomnia, unless arising from overwork or worry, do not do well in Egypt, nor do hypochondriacs with any tendency to melancholia. Malarial neuralgia I have known do very well at Assouan, as also hysteria. With regard to Assouan it is the driest health resort we know and, as it is almost at sea level, it is admirably adapted for cases of Bright's disease.

It is a great mistake for patients after visiting Egypt to return too rapidly to this country.

I quite agree with one of the previous speakers that it is necessary to give many patients suffering from nervous diseases a preliminary course of treatment before sending them to a health resort.

With regard to Dr. Fletcher Beach's remarks, that travelling round the world did more harm than good in some cases of neurasthenia, I am convinced that this is the case, but I have seen cases where, after a period of prolonged rest, a slow journey round the world, with a suitable good companion, has been of the greatest benefit. It is the rapid journeys which bring a very useful method of treatment into disrepute.

The same speaker referred to the open-air treatment. With his remarks I quite agree, but with regard to the open-air treatment of phthisis, of which we hear so much at the present day, I think that the public are getting a wrong impression. It is not fresh air alone which is beneficial; it is fresh air combined with over-feeding, carefully regulated exercise, good nursing and a supervised life.

Dr. HEDLEY said that, like other speakers who had preceded him, he had to confess that he was not present at the last meeting of the Society, and as he might say what had already been dealt with, his remarks would be short.

He believed a health resort played the same part in the treatment of nervous disease that it played in other classes of morbid conditions. A health resort resolved itself into the sum total of the various physical and natural agencies which a given locality could bring to bear upon a living body—temperature, elevation, dryness, sunshine, ozone, baths, mineral waters, and lastly, but by no means least, that subtle factor in all good results, change. It lay with the medical man so to manipulate those agencies as to strengthen the natural barriers of the body against disease, in other words, to increase the resisting power of the organism. It had been said, and with truth, that the body was the cause of its own disease. It had a defensive organisation of its own, and it could repair its own losses, and only when it fell below par, or when there was any defect, either hereditary or acquired, did it lose that power of repair. Those defences could be materially strengthened by the various agencies that combined to make up a health resort. The nutritive, respiratory, secretory, and excretory processes were improved, and so was the rate of combustion—the intake of oxygen and the elimination of carbonic acid; they formed the sum total of the forces that resisted death, the soil, or “terrain” of the French, on which the morbid change underwent its course. That conception of soil lay at the root of all pathology. Attention had been so pre-occupied of recent years with the microbe that they had, to some extent, rather overlooked the ground or soil which it invaded, and upon which it grew. That soil seemed to him to be formed by the various functions and processes which could be materially benefited by a health resort. He meant that different individuals had different degrees of susceptibility to disease. Let them take cold as an instance. Through that agency one man got rheumatism, another pneumonia, and another Bell’s paralysis. The cause was the same, but it fell upon a different soil to develop. The same was seen in epidemics; not everyone was susceptible to a particular epidemic which was raging. There were parallel instances in different races of men—the West Indians and Blacks were hardly susceptible to yellow fever. Small-pox in man was different from small-pox in the cow. That meant that, given a definite pathological cause, the precise manifestation depended on the soil—

on the influences which a health resort could bring to bear. There were certain soils which had special characteristics, and upon them the disease would run a special kind of course. That was the primary conception of a diathesis. A diathesis was a degeneration, hereditary or acquired, which showed itself by certain nutritional defects and toxic changes in the fluids of the body. They all knew how favourably certain diatheses could be influenced by watering places. They saw examples constantly. It was nothing more than what Bouchart explained by different individuals forming different media—their different chemical, physical, and nutritional characteristics made them different media—so that on one of them a certain pathogenic agency would prosper, and upon another it would die, according to the condition its defences were in. He considered that a health resort was a combination of agencies which altered the nutritive processes, and the morbid action in cells, so as to increase the resistance of the body to any morbid agency, and to arouse its own inherent recuperative power. In other words, watering-places influenced the cell, and by doing so altered the course and evolution of any pathogenic cause that might gain access to that cell. That health resorts did influence the processes of the body in the way he had described was tolerably evident.

Dr. KNOWSLEY SIBLEY said he did not expect to be called upon to make any remarks, because, like previous speakers, he had not been fortunate enough to hear the introductory paper by Dr. Harry Campbell. The subject was so vast that it was difficult to know what branch to discuss. The part of the subject he had been specially interested in was the treatment of nervous diseases by hot-air baths. He had treated perhaps all the ordinary forms of nerve disease by dry hot-air baths at the hospital, with varying results, but in the majority of cases with undoubted benefit. There were a few diseases which he had not been able to produce any effect upon by that means.

Taking first the diseases which were benefited by hot-air treatment; insomnia, especially if there were a gouty or uratic element in the case—as there usually was—was wonderfully improved, if not completely cured, by that means. A large number of cases of epilepsy—generally with bromide, but in

some cases without bromide—were very much benefited by hot-air baths. Chorea, if it might be included as a nervous disease, he believed was curable by hot-air baths. The choreic movements in children were much modified or completely arrested during the treatment, and though in the majority of cases the movements returned after the treatment, they did so in gradually decreasing severity. In some of the cases the movements were so violent that it was difficult to restrain them so as to prevent injury. They had got better quicker by this means alone than by the routine drug treatment. Neuralgias were also much benefited by hot-air treatment. He had had cases of persistent neuralgia, with herpes zoster, which seemed almost impossible to cure by other means, but which yielded almost invariably to hot-air. Hysterical paralyses were undoubtedly cured for the time being by such baths.

Passing to the grosser conditions, such as tabes, he remembered at a previous discussion in the Society, one speaker—he forgot who—referred to wonderful cures which he had had of tabes dorsalis by the hot-air method. One case was described as being unable to stand before treatment, but was cured by the hot-air. He, Dr. Sibley, could not say his experience was similar. He could not trace any benefit to the treatment in the few cases of that malady he had tried, though the procedure had not done the patients any harm. He had not been able to come across those cases of tabes of which they had heard, even that night, where wonderful cures had been effected. Of course they might have been specific cases in the first instance. In writer's cramp he had not found any distinct benefit follow hot-air treatment. Paralysis agitans, however, was very much improved by this means, though the movements were not made to cease. He had in mind a particular case, that of a man who was very weak from the condition, and who gained strength by the application, though the movements were not alleviated. In cases of long-standing paralysis of limbs, especially cases where the limbs were very cold and the circulation in them bad, there was some slight improvement by the treatment, and possibly if persevered with sufficiently long, there might be some return of movement. But such cases were very tedious. A group of cases



in which he had been very pleased with the results of hot-air baths was those of Menière's disease. One patient, a cook, was in hospital five years ago, and was a typical case of Menière's disease of a severe type. She used to fall down unconscious, and had persistent noises in the head, with headache and almost complete deafness. She had had varied treatment, including operations on her nose, ears, and other parts of the body, but without apparent benefit. After a few hot-air baths, however, her hearing improved. The noises in her head she used to liken to hail falling on the skylight, and stated that during the treatment they seemed further away. After some months of treatment she got very much better, and was able to return to her work. He lost sight of her for two years, and then she came back to the out-patient department completely deaf. She stated that she had remained remarkably well, with only a little deafness, and that the noises had not worried her for some months. But one day she more or less suddenly became deaf, and, getting alarmed, returned to the hospital. He took her in, and treated her as before, and she was now much better, but whether the improvement would be permanent he could not say.

Of course, in the large question of nervous diseases, the question of sending patients to English health resorts or to Continental ones was of some importance. He agreed with the previous speaker that the treatment and care of patients at English health resorts was not so sympathetic and careful as they might wish on the part of attendants and waiters, and that the Continental resorts were in advance of the English in that respect.

Dr. SHIRLEY JONES (Droitwich) said that he also was under the disadvantage of not having heard the very interesting address by Dr. Harry Campbell, though he had read the *résumé* of it in the *British Medical Journal*. At the outset he would like to protest against the idea of many people, which unfortunately was shared by some members of the profession, that because a particular watering place was said to be good for a particular malady it followed that residence at that place would necessarily result in cure. In many of those cases, particularly of nervous disease, they did not pretend to cure organic disease. If they could

produce some amelioration of the symptoms they were content. His experience of the treatment of nerve diseases by baths was entirely limited to that at the Droitwich brine baths; and that experience led him to the idea that in warm saline baths they had a very valuable remedy for many cases of nervous disease—of course chiefly functional. But in some organic diseases, such as locomotor ataxy or sclerosis of the spinal cord, some amelioration of the symptoms was found. For instance, the lightning pains of locomotor ataxy were very much relieved by a tepid saline bath carried on for some little time, three weeks to a month, and very often the ataxic gait was very much improved. They saw at Droitwich a great deal of chorea from the neighbouring town of Birmingham, and the treatment of chorea by those baths yielded the happiest results. But, unfortunately, they were under the disadvantage—and would probably remain so for many years to come—that they could not judge how much of the benefit was derived from the change of air, and scene, and surroundings, and rest, and how much was due to the bath treatment. In cases like chorea, which occurred to a great extent in young children who were ill fed and nourished, change of surroundings must obviously make a very great difference. In cases of peripheral neuritis, too, whether dependent upon alcoholism or plumbism, they found very great relief, and often a very speedy cure. He thought he could say from experience, that at Droitwich they found a speedier cure than those occurring in hospitals from the use of drugs.

But perhaps their most brilliant results were obtained in cases of neurites and neuralgias. He saw that Dr. Harry Campbell, in his excellent paper, laid great stress upon the causes of neuritis and neuralgias; and he said that for the most part the causes were chiefly toxines. He (Dr. Shirley Jones) quite held that idea, and thought very few cases would be found not to come into that category. In his experience, as many were due to the poison of influenza as to any other cause.

He would like to say a few words on the method in which the baths at Droitwich were given in cases of neuritis. In a neuritis of ordinary severity it was the custom to order first a hot reclining bath—one in which the after-effects of lassitude and depression

could be entirely recovered from by a two hours' rest—in bed if possible—afterwards. If, at the end of that two hours' rest, any lassitude remained, he concluded that the bath was too hot. He always found that the degree of relief of pain was in proportion to the temperature of the bath which the patient could stand. As a rule, during the first bath or two there was complete freedom from pain whilst the patient was in the bath. Then there was usually a return of pain afterwards, which generally increased in intensity until it reached its normal severity. Then, for the next two or three baths, there was a return of the pain during the bath, and also pain afterwards, sometimes even more intense than before the first bath. That period lasted for a day or two, after which there was a gradual decrease of pain. The character of the pain changed; the sharp, shooting pain giving place to one of a dull, aching kind. When this change occurred, it was his practice gradually to lower the temperature of the bath, until it was as low as the patient could comfortably bear. By that means they found the very greatest benefit in cases of neuralgia and neuritis. It was not an uncommon occurrence for a neuritis of three, six, or nine months' standing to be completely cured in three or four weeks by that method. Of course, after a time there were other adjuncts in the method of treatment, and he did not wish to say that all the benefits were due to the brine baths. Massage and electricity were valuable adjuncts, but it was his habit in Droitwich never to order electricity or massage during the acute stage of neuritis; he trusted implicitly to the bath for the relief of pain. He very seldom gave medicines for the relief of pain. It was, therefore, borne in upon his mind that warm saline baths must have a direct effect upon the peripheral nerves of the body. Were it not so, he could not conceive the loss of pain during the time the patient was in the bath, and the return of pain after leaving the bath, especially as no drugs were given at that stage.

Dr. THOMSON (Buxton) said he had not intended joining in the discussion, as he had not heard Dr. Campbell's paper. Most of the cases he had met with at watering places were of a functional rather than organic character. He believed their treatment was rather to alleviate than to cure. In functional cases he

thought the remarks of Dr. Alexander Morrison respecting the confidence of the patient were very much to the point; unless that confidence were secured, treatment was ineffectual, and mental effect in such cases was the greatest help towards relief and cure.

Regarding the remarks of Dr. Shirley Jones, he (Dr. Thomson) had been accustomed to rely upon hot baths for the speedy cure of cases of neuritis. He very rarely gave medicines. He often gave a vapour douche, which he found most effectual, and then lowered the temperature afterwards. He thought neuritis was often caused through patients being unable to bear variations of temperature.

Dr. BANNATYNE (Bath): In the discussion, my remarks must be to a great extent confined to the treatment of nerve diseases by balneo-therapeutics and as carried out in Bath, for although Bath has a warm sedative climate very suitable for the residence of many forms of nerve disease, yet it is to its thermal waters that we principally owe any special opportunities of watching and carrying out the treatment of such diseases. As is known, the principal active elements in hydro-therapeutics, apart from mechanical forces, are the thermic irritants, heat and cold, and it is to their action that most good can be ascribed in the treatment of nerve disease. And this is easily understood when we consider the impression heat and cold make on the terminal nerve endings which abound on the cutaneous surface. Heat and cold when applied as water give rise to nerve impressions, which being conveyed to the central nervous system cause other reflex impulses which are conducted throughout the body and thus exert important influences on all its functions. Again, the effect of heat and cold upon the naso-motor nerves produces a narrowing of the surface vessels which increases the resistance to the blood current and so varies its pressure. This contraction, following well-known physiological laws, is followed in time by arterial relaxation according to the extent and intensity of the cutaneous irritation. These simple facts furnish the key to the remarkable, yet positive, effects produced by thermal baths.

If we turn to the diseases which experience has taught us derive benefit from the use of mineral waters, and here, of course,

I speak principally of the effects as seen at Bath, we find both functional and organic nerve disorders derive benefit, although it must necessarily be amongst the former class that most good is seen. This is understood when we consider the profound effect thermal waters have on tissue metabolism and toxicity of the blood, but profound as this is we know it can have no action where actual gross organic changes have occurred.

In such conditions as insomnia due to toxic states of the blood, toxæmic headaches and neuralgias, we derive much benefit, as we do also in all forms of hysteria, chorea, sciatica, Menière's disease, toxic neuritis, &c. It is difficult, without entering greatly into detail, to indicate what form of treatment is most suitable in each individual case, for in some a sedative form of bath will prove more beneficial than a stimulating douche, but one may safely say that, in those diseases associated with acute pain, immersion at a moderately warm temperature is preferable. Whereas in chronic diseases, or where there is less pain, powerful stimuli in the shape of douches are of more service. Thus, in sciatica during the acutely painful stage, a simple immersion bath only can be borne, but as its course becomes less painful, undercurrent douches, followed even by dry douches and the needle bath, may be indicated. In neuralgia, the warm vapour bath at first, and then douches varying in intensity and temperature, are useful. In hysteria the effect of douches, alternating and simple, is most marked, and the worst cases usually yield to warm baths followed by forcible alternating needle or douche bath. In chorea, baths greatly assist drug treatment, but they must be of a simple and gentle character, douches being contra-indicated at first. Later on, undercurrent douches to the spine with gentle massage will help, the most satisfactory cases being those associated with a history of rheumatism, the elimination of the rheumatic poison being followed by rapid improvement and restoration to health. Possibly, the most common form of nerve disease we are called on to treat by baths is neuritis with paralysis due to the poison of diphtheria, ague and typhoid, that due to cold or exposure, and as the result of such poisons as lead, mercury, copper, &c., the treatment in these cases consisting of warm reclining baths as long as there is acute pain, combined, as

this subsides, with douches and massage. Sometimes vapour baths may be indicated and electricity is of use.

As in functional and toxæmic cases, so in organic disease do we get benefit from a judicious use of baths and mineral waters ; but in central nerve diseases with gross organic changes, although thermal treatment may alleviate suffering, it cannot have any curative effect. In syphilitic conditions warm baths are of the greatest use, as they enable many patients to take much larger doses of mercury and iodide of potash than they would otherwise be able to do, and they also seem to increase the effect of these drugs on the syphilitic symptoms. Even in hemiplegia in the later stages baths and douches do good, associated with electricity and massage. Of course the extent of the brain lesions and general condition of the patient must determine the treatment and its extent, but in any case only the reclining bath at a moderate temperature and douches and a gentle pressure can be prescribed. In *tabes dorsalis*, tepid and warm reclining baths, with sometimes the Berthollet, at 90-92° F., and a gentle spinal spray will relieve the girdle and lightning pains, but at best they are unsatisfactory cases for any routine balneological treatment. In chronic myelitis, when the inflammatory condition has subsided, vapour baths, douches and sprays in their mildest forms are singularly agreeable and beneficial, and later on may be combined with massage and electricity.

On the whole, as this rough sketch shows, there are few forms of nerve disease which at one time or another do not come under balneological treatment ; and there are few which have not derived some temporary benefit at least from a form of treatment which permits of many varied and acceptable modes of application. And one sometimes feels that we do not altogether realise what great benefit can be obtained by simple means in many very intractable morbid states.

Dr. HARRY CAMPBELL, in replying on the discussion, said that as the members were anxious to hear the paper by Dr. Bain, he would make his remarks very short. He thought they might congratulate themselves on the discussion, which he believed was the first of its kind in this country. It would serve to remind the Profession at large that there were other means of treating

diseases of the nervous system than by the familiar iodide of potassium and antipyrine. Dr. Grüber, at the last meeting, expressed his surprise that in their huge, voluminous textbooks, which dealt most minutely with symptomatology and pathology, mention of treatment was almost conspicuous by its absence. A great deal of good might be done by means of baths, by suitable climate, and so forth ; and he must express his obligation to the many members who had taken part in the discussion, for from them he had learnt a number of most interesting facts. He proposed to limit his remarks to the ideas suggested by the speeches that evening.

Dr. Leonard Williams alluded to the fact, which appeared to be undoubted, that there were non-syphilitic forms of locomotor ataxy ; and it would be a very serious indictment against many a man to conclude that because he had locomotor ataxy he had had syphilis. Still, no doubt Dr. Leonard Williams would agree that the vast bulk of cases of locomotor ataxy were due to syphilis, as perhaps all, or 99 per cent. of the cases of general paralysis of the insane were. Dr. Leonard Williams raised the question whether those cases would be more amenable to treatment than the cases due to syphilis. He (Dr. Campbell) would have thought they would be less amenable to treatment, because the tendency to degeneration of the nervous system was so great that it took place independently of the syphilitic virus, and therefore that the outlook in such cases would be very black. What had been said about the tranquillising effect of the philosophic calm of country life was very much to the point. What Dr. Williams and other speakers had said about the amenability of the symptoms of locomotor ataxy to spa treatment he entirely agreed with. They had to remember that many of the symptoms met with in organic disease were functional ; they varied from day to day, and could decidedly be overcome by ordinary treatment. There could be no doubt whatever that cases of organic disease of the nervous system did benefit by spa treatment. Dr. Williams' remarks on the beneficial influence of the climate of Sidmouth on epilepsy were most suggestive, and they had, no doubt, much yet to learn about that subject.

They would, of course, all agree with Dr. Morrison as to the

part played by faith in the treatment. One of the reasons why some medical men were much more successful in treatment than others, was because of the large measure of faith which they could inspire.

He agreed with all the sensible and practical remarks of Dr. Felkin. No doubt in England the health resorts were at a disadvantage compared with continental ones in the matter of personal attention, politeness, and interested service, but, let them hope, not from any fault on the medical side. On the Continent, also, amusements were much better catered for than in England.

Regarding the influence of the climate of Egypt on insomnia, especially that from which business men suffered, he thought Dr. Felkin had given them a most useful hint. One could well understand that desert life should be beneficial to people broken down in their nervous system. remote ancestors were supposed to have come from some of the equatorial portions of the earth, and one could well understand that the conditions there were just those to restore man's health at the present day.

He entirely agreed with the philosophic remarks of Dr. Hedley, whose chief point, he believed, amounted to this: that special treatment influenced the metabolism and all the functions of the body. The great object was to so influence those functions as to enable the body to resist disease.

Dr. Sibley's remarks were particularly interesting, more especially, perhaps, regarding the influence of hot-air treatment on chorea and on Menière's disease. One difficulty in treating cases of chorea by hot-air baths had been alluded to by Dr. Sibley, viz., the liability of the patient to injure himself. He took it that in a very severe case of chorea the treatment would be quite impracticable for that reason.

Dr. SIBLEY said that the movements could be controlled mechanically during the application of the bath.

Dr. HARRY CAMPBELL thought that Dr. Sibley's suggestion was a very good one, and he would try it in a very severe case of chorea at present under his care.

All would agree that Dr. Shirley Jones' remarks were most



interesting and instructive. There could be no doubt that the system of treatment of cases of neuralgia which he adopted was of very great value.

In conclusion, he assured his hearers that he had derived very great benefit by listening to the very interesting and instructive discussion.



BRITISH BALNEOLOGICAL AND CLIMATOLOGICAL  
SOCIETY.

THURSDAY, MARCH 8.

THE EFFECT OF LUMINOUS AND HEAT RAYS ON  
THE LOCAL AND GENERAL TEMPERATURES.

BY WILLIAM BAIN, M.D., M.R.C.P., HARROGATE.

*From the Physiological Laboratory, Leeds.*

DURING the recent discussion on the treatment of disease by super-heated air, debatable statements were made regarding the relative effects of luminous and obscure heat when applied locally to the surface of the body. In order to throw light on this question an experiment with the Dowsing apparatus was undertaken, data for comparison being provided by a previous experiment, already published, with the Greville box. A dog having been etherised, both femoral veins were exposed and a clinical thermometer inserted into a branch of each, so that the bulb projected into the main vessel. The left hind-leg of the dog was then placed in the Dowsing box and the electrical current turned on. A third thermometer was inserted among the muscles of the neck, and it may be noted that throughout the experiment the temperatures registered by this instrument and the one in the right limb were uniform. At the outset the temperature of all three was 95·8 F. After the lapse of twenty minutes the general temperature had risen to 97°, that of the left leg to 103° F., and of the box to 200° F. Ten minutes later the respective readings were 98·4° F., 106° F., and 225° F., and in another fifteen minutes 99·3° F., 111° F., and 250° F. In regard to the limb temperature, 111° F., it may be mentioned when the third reading was taken the thermometer in question only registered 106° F., *i.e.*, it had remained stationary, although the box temperature had risen 25° F. This was found to be due to the bulb having slipped out of the main vessel. On returning it the register at once rose to 111° F., showing that the increase was not due to the proximity of the thermometer to the heated box.

It will be observed that the general temperature during the experiment was raised  $3.5^{\circ}$  F. and the local temperature  $15.2^{\circ}$  F., while the box temperature only attained a maximum of  $250^{\circ}$  F. The investigation could not be carried further owing to the limited scale of the clinical thermometer. For comparison the figures from the report on the Greville box may be quoted. The temperature of the body was  $1.8^{\circ}$  F. and of the limb treated  $6.6^{\circ}$  F., while the temperature of the box reached  $300^{\circ}$  F. The difference in temperature, both local and general, produced by the two methods is most marked, and so far as the curative effects may have a thermal basis, weighs in favour of the Dowsing system. It is to be remembered, however, that quite apart from the question of raising the temperature a special therapeutic efficacy has been claimed for the luminous rays. How far the greater thermic effect revealed by the above experiment is answerable for the benefit attributed to the luminous rays must still remain a matter of opinion.

Dr. KNOWSLEY SIBLEY asked Dr. Bain, with regard to the thermometer placed in the vessel of the limb under treatment, what means were taken to prevent the heat directly radiating from the apparatus to the limb? The limbs of a dog were very short, and he would like to know how much of the limb was exposed to the heat, and how far above that point the thermometer was placed.

Dr. HEDLEY said he would like to express his thanks to Dr. Bain. It was exactly what one might expect, and what had been predicted on more than one occasion before the Society. They had to thank Dr. Bain for the experimental proof of it.

Dr. BAIN, in reply, said he explained that when the second reading was taken with the thermometer placed in the vein from the limb in the box, the temperature of that thermometer was  $106^{\circ}$ . When the third reading was taken, fifteen minutes later, the temperature was exactly the same. It was found that the bulb had slipped out of the main vessel, which was proof that it could not be influenced by the box temperature. The dog's leg was inserted in the box to the knee, the box was covered over with asbestos, and a large amount of cotton wool was inserted between the thermometer and the box. The bulb could not receive the

surface heat, because it was inserted into the vessel, the blood rushing across it. So the fact that it remained stationary between the two readings showed that it was purely the blood temperature which was registered.

The PRESIDENT announced that the next meeting would be held on April 26, when Dr. Laing Gordon would read a paper on "The Hospitals and Climate of Rhodesia," and a paper would be contributed on the subject of "Gouty Myositis."

The meeting then adjourned.



## Original Communication.

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### SOME CLINICAL USES OF THE TELEPHONE.

BY W. S. HEDLEY, M.D.

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MORE than twenty years ago it was suggested that the telephone might prove useful as a "galvanoscope." In this capacity its medical employment has hitherto lain chiefly in the direction of physiological experiment. We are all familiar with the process of measuring the electrical resistance of the human body by Kohlrausch's method ; that is to say, by means of a Wheatstone bridge and a telephone. Hartmann has employed the telephone to demonstrate the current of action in muscles, and advantage has been taken of its extreme sensitiveness in attempts to prove the existence of a current of rest. According to Dubois-Reymond's experiment, it is possible to excite the neuro-muscular apparatus by speaking into a telephone with a coil in circuit. Attention is now directed to the *clinical* possibilities of the telephone. During recent months it has proved itself, in the hands of the surgeon, an unerring bullet-finder. Now it offers itself as a Faradoscope (Elevy) ; that is to say, a means of indicating the presence of alternating currents, and following their distribution through the body. Further, it has been found that the telephone is capable of registering those delicate currents which seem to be present in certain mineral waters.

It will be remembered that the telephone responds to continuous and alternating currents in the following way : Placed in circuit with a voltaic cell it emits a single sound at opening of the circuit, and a single sound at closure ; as well as a sound at every change of potential ; but it remains silent during the passage of a steady current. With an alternating current its response is different. It emits a continuous dry crepitating sound synchronous with the frequency of alternation of the current it is registering.

I have elsewhere<sup>1</sup> described what appears to me to be the

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<sup>1</sup> "Therapeutic Electricity," p. 257 (Churchill).

most efficient and convenient modification of the telephone probe ; and this description it may be permissible in the present connection briefly to repeat. The action of this "probe" depends on the difference of potential between two different metals, and upon the delicacy with which the telephone will disclose an electric current so engendered. A thin sheet of pure silver is placed upon an indifferent part of the body, and attached by means of a wire having a telephone in circuit to a silver probe or heavily plated exploring needle. If the probe be inserted into the tissues the telephone is silent because there is no difference of potential which the telephone will register ; but immediately a metallic body other than silver is touched there is a fall of potential, a current is produced, and the telephone indicates the fact.

Since attention was drawn to the matter by Dr. Elevy, the present writer has frequently availed himself of telephonic auscultation as a means of studying the strength and distribution of alternating currents in the body. Recollecting the fact just adverted to, that a telephone in circuit with an alternating current gives a continuous response, proceed as follows :—Let the mildest possible Faradic current, one far short of the ability to produce muscular contraction, be passed through the body, say from hand to hand. If now two small pads, such as are used as electrodes, joined by wire with a telephone in circuit, be placed upon the arm of the person through whom the Faradic current is passing, a continuous noise will be heard in the telephone, although neither the latter nor the exploring pads have any metallic connection with the Faradic current in question. It is easy in this way to follow the lines of current flow through the body, and to judge of their strength. Thus, if the exploring pads be placed symmetrically on each forearm close to the hand, the sound is loudest, and diminishes as the pads are removed from the proximity of the entrance of the current ; that is to say, as current density decreases and interposed resistance increases. If the exploring pads be approximated to the median vertical line of the body the sound diminishes ; for example, if they be placed laterally upon the neck the sound of the telephone grows less as the vertebral column is approached ; the difference of potential

having in fact decreased. Similar facts are observable if an electric current be led into a body of water, such as a bath. In the latter case, it is customary to explore the hydro-electric field by placing two hands in the water, and every one who does this is aware that the current is stronger the further the hands are apart ; in other words, the greater the potential difference between them. In this case the experimenter "shunts" through his own body a portion of the current that is passing through the bath, just as in the former case he shunts through the telephone a portion of the current passing through the body. Speaking broadly, a current once having gained access to the body becomes diffused throughout the tissues much as if the same current were led into a volume of water ; and, in the former case as well as in the latter, such a current can be tapped in any part of its circuit. It thus appears that "localisation," that great watchword of Duchenne, can at best be only a relative term ; a strict localisation of current in such a conductor as the body can never in practice be secured.

It has been attempted by Dr. Elevy not only to demonstrate the existence of electric currents in mineral waters<sup>1</sup> but to determine approximately the strength of such currents. Starting with the fact that with a telephone of a certain construction a current of one milliamperè produces at break a noise audible at 40 c.m. from the ear, it is estimated that for every centimetre that it is necessary to place the ear nearer in order to hear a minimum sound, current intensity diminishes  $\frac{1}{10}$  of a milliamperè. If, therefore, the telephone be heard only close to the ear, current intensity would be under 25 microampères. But it is stated (Elevy) that, as a matter of fact, a continuous current of only 1 microampère would be disclosed by the telephone. The only apparatus required is to have two carbon electrodes joined to a telephone. As an initial experiment let one electrode touch the tap of the bath and the other be plunged into the bath and withdrawn from it—a double sound will be heard in the telephone corresponding with the opening and closing of a current, and the strength of the current will be approxi-

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<sup>1</sup> Those of Briscous-Biarritz.

mately denoted by the minimum distance from the ear at which the sound is perceived. A commutator placed in circuit makes the proceeding easier. With this apparatus such experiments as the following have been carried out by Eley:—

- (1) Let one electrode be attached to the tap and the other placed in the hand (held out of the water) of a person in the bath; quickly open the commutator, and a distinct sound will be heard in the telephone held at a considerable distance from the ear;
- (2) placing both electrodes in the water, and making and breaking circuit by the commutator, the sound in the telephone will be heard at a distance, much less of course than in the former experiment, but amounting to several centimètres;
- (3) putting one electrode in the bath water and the other in the hand held out of the water, a sound will be heard, although at a distance still shorter than in the previous case.

This experiment goes to show that there is actually an electric current between the bath water and the immersed person, a current whose presence can be indicated, and whose strength can be estimated, by means of the telephone.

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## Memoir.

SAMUEL HYDE, M.D. ST. ANDR., L.R.C.P.ED., M.R.C.S.ENG.

THE lamentable death of Dr. Samuel Hyde took place in London, on February 8, at the comparatively early age of 50 years. In him the Balneological and Climatological Society has lost, not only one of its most zealous and energetic members, but one to whom more than to any other man it owes its existence. His was the most active spirit from the first days of the young Society up to the present year, and to the end of his life he retained the warmest interest in its affairs.

Dr. Hyde was born at Staleybridge, in Cheshire, 1849, and received his early education at the Leek Grammar School. His medical curriculum was passed at King's College, London. During a part of this time he took an active interest in mission work, and was attached to St. Giles's Medical Mission. In 1877 he settled in Buxton and was for several years proprietor and resident physician to the Peak Hydropathic and Thermal Establishment. Later, however, by the advice of a valued colleague in Buxton, he forsook this specialised line of treatment for the wider field of general and spa practice. He was a skilled and observant physician, somewhat deliberate, but painstaking and indefatigable in all his work, fond of literary avocations and caring little for ordinary recreations. Dr. Gifford Bennet writes of him : " He was honourable and candid, and a strict observer of medical etiquette ; kind, courteous and urbane towards his patients, and invariably considerate and sympathetic with the suffering."

In the course of his practice at the Derbyshire Spa, Dr. Hyde became more and more convinced of the efficacy of balneary procedures and of climatic influences in the treatment of chronic disorders ; and he prescribed them for his patients and advocated their claims in his writings with sincere confidence. Among his more important publications and occasional papers are : " The Causes and Treatment of Rheumatoid Arthritis," " Buxton, its Baths and Climate," " Notes from the Practice of a Spa



**SAMUEL HYDE, M.D., L.R.C.P., M.R.C.S.**



Physician," "The Uses of Animal Extracts in Chronic Joint Affections," "The Treatment of Cardiac Affections by Baths, Climate and Waters," "Analysis of Two Hundred Cases of Sciatica," "The Pure Air Treatment of Consumption," &c.

For some years Dr. Hyde edited a *Journal of British and Foreign Health Resorts*, being thus, after Dr. Prosser James, one of the pioneers of recent balneological literature in this country. He recognised that the department of medical science and practice connected with baths and climate had been too long neglected in Great Britain. It may be that Samuel Hyde's best title to be remembered in after years will consist in the efforts that he made to remove this reproach from British medicine. Whilst on the continent of Europe, in France and Germany and Italy, numerous societies and journals had been for many years devoted to the study of baths and climate, in all their practical applications to therapeutics, no such association existed in this country. Only by an occasional and fugitive publication dealing with these topics were the medical men at our own health resorts made from time to time dimly aware that they had interests and duties and obligations in common. In 1896 the British Balneological and Climatological Society was founded, a result in great part of Dr. Hyde's ceaseless energy and perseverance. Its *raison d'être* was declared to be not only to unite for the first time in this country the practitioners in the various British spas and climatic health resorts in a bond of good fellowship, but also to promote amongst them the pursuit of scientific medicine and the highest ideals in practice. May we not say that the approval and encouragement that have been received from the profession at large, as well as from the health resorts, emphasise the value and importance of the work which the young Society has taken in hand? In the early labours of organisation, Dr. Hyde took a large share. Although living at a considerable distance from London, he attended all the meetings until overtaken by illness; and he remained the Chairman of Council and the Editor of the Society's JOURNAL up to the time of his death.

His last illness was a prolonged and painful one. He was attended by his friends, Mr. Thomas Jones and Mr. Southam of Manchester; by Dr. Gifford Bennet of Buxton, and by Mr.

Keetley and Dr. Sunderland. Aware of the serious nature of the malady, he showed great resignation and made every preparation for the end with the care and forethought which marked his character.

To the Balneological Society the loss of Dr. Hyde is not a light one. The JOURNAL loses its Editor, the Council its most experienced and resourceful councillor, the members at large are deprived of a friendly presence in our meetings that will long be missed. It has been said that a man is, or should be, greater than his work, which is no doubt true. On the other hand, and in a different sense, the work that we do is greater than ourselves, if when we pass it can endure and remain permanent. The work begun by Dr. Hyde is of that character; others doubtless will build on the foundations he has laid, and we may hope that in the future of our Society such workers will never be wanting.

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## BRITISH BALNEOLOGICAL AND CLIMATOLOGICAL SOCIETY.

THE ordinary meeting of the members of the above Society was held on Thursday evening, January 25, at 20, Hanover Square, London, W., when Dr. Harry Campbell read a paper on "Nervous Diseases Treated by Baths and Climate." The Président, Dr. Ivor Murray, occupied the Chair.

The SECRETARY having read the minutes of the last meeting, the Chairman called on Dr. Campbell for his paper on "The Treatment of Nervous Diseases by Baths and Climate."

### EXTRACT OF ORDINARY MEETING, MARCH 8, 1900.

The PRESIDENT in the Chair.

Minutes of last meeting read and confirmed.

Candidates nominated for Fellowship :

Francis Henry Ibalds, M.R.C.S., L.R.C.P., Droitwich.

Ronald Campbell Macfie, M.A., M.B.C.M., Llandrindod Wells.

The PRESIDENT referred in feeling terms to the deplorable loss sustained by the Society through the death of the Chairman of the Council, Dr. Samuel Hyde, of Buxton, and proposed that a vote of condolence and sympathy with his family be passed.

Dr. SNOW (Bournemouth) seconded the resolution, saying that not only was the death of Dr. Hyde a severe blow for the Society as a body, but each member of it individually felt he had lost a friend.

The PRESIDENT gave a synopsis of the discussion "On the Treatment of Nervous Diseases and Affections by Baths and Climate," which was opened by Dr. Harry Campbell at the last meeting.

Dr. LEONARD WILLIAMS then re-opened the discussion, and the following Fellows took part in the discussion : Drs. ALEXANDER MORISON, FELKIN, HEDLEY, KNOWSLEY, SIBLEY, SHIRLEY JONES (Droitwich) ; THOMSON (Buxton).

Dr. HARRY CAMPBELL replied.

Dr. BAIN (Harrogate) read a paper entitled "The Effect of Luminous and Heat Rays on the Local and General Temperature."

Drs. KNOWSLEY, SIBLEY and HEDLEY discussed the paper and Dr. BAIN replied.

## **Notices of Books, Drugs, Appliances, &c.**

**GRANULAR KIDNEY AND PHYSIOLOGICAL ALBUMINURIA.** By Samuel West, M.A., M.D.Oxon., F.R.C.P.Lond. London: Henry J. Glaisher. 1900.

This volume consists of the Lettsomian lectures delivered last year before the Medical Society of London. The subject of granular kidney is treated by Dr. West in a masterly manner. He explains, and the explanation cannot be too well taken to heart, that the physical signs of granular kidney are early, while the symptoms are late. When the symptoms arise the disease has already existed for some time, and the lesions are far advanced. For the diagnosis of the disease in its early stages it is therefore necessary to look to the physical signs and not to the symptoms. He considers that the main difference between the contracted white and the contracted red kidney is one of colour only, and that clinically no distinction at all can be drawn between them; so that with exactly the same clinical symptoms we may find the kidneys in the one case white, and in the other case red. As to the causal relation of granular kidney to acute nephritis, Dr. West is very doubtful. He states that only in a very small number of cases of granular kidney can a history of antecedent acute nephritis be obtained, and that in still fewer instances can a case be traced from an initial acute nephritis to granular kidney. It follows, therefore, that most cases of granular kidney must be referred to some other origin.

It is the changes in the arteries that are of prime importance in granular kidney, for in great measure, if not entirely, the hypertrophy of the heart is secondary to, and the consequence of, the changes in the vessels. The thickening of the vessels is fairly uniform, and consists of hypertrophic changes in the earlier stages, and degenerative in the later. Dr. West considers it probable that both the heart and the vessels hypertrophy together for the purpose of assisting the circulation to overcome some obstruction, which obstruction is primarily renal.

He arranges the symptoms in two groups, the cardio-vascular and renal. The cardiac symptoms are those of heart failure; the vascular symptoms consist chiefly of hæmorrhage and its results; the renal symptoms, which are the latest to develop, fall into two groups according as they are of gradual development or sudden onset, and are described as chronic and acute anæmia respectively. The physical signs which allow a diagnosis to be made before the symptoms have necessarily developed are high tension and thickened arteria, hypertrophy of the heart, and albuminuria.

Dr. West first arranges the causes of albuminuria in two

groups, according as they lie in the kidney or outside it. In the latter case it may depend, on the one hand, upon some changes in the tissue or blood before the blood has reached the kidney, and may therefore be called pre-renal; and, on the other, the urine may be normal when secreted, the albumen being added to it after secretion, as from the urinary passages or the generative organs; these may be called post-renal. The question of so-called physiological albuminuria is carefully dealt with, and the following conclusions are arrived at by the author:—(1) That the so-called physiological albuminuria is always pathological, even if not always renal, when the amount of albumen is more than the merest trace; (2) it is probably pathological even in those cases in which the amount of albumen is but a trace, and no cause obvious. Albuminuric retinitis is divided into two forms, the degenerative and the exudative. The degenerative form is associated with granular kidney, is consequent on the vascular changes, and is usually accompanied by progressive impairment of sight. The exudative form is especially associated with parenchymatous nephritis, is inflammatory and probably toxic in origin, and from it recovery may take place with little or no defect of sight,

The section on treatment is especially good, and the whole book is well worthy of careful perusal by the practitioner.

CONSTIPATION AND ITS MODERN TREATMENT. By George Herschell, M.D.Lond. Second Edition. London: H. J. Glaisher, 1899.

The practice which obtains in medical literature of treating a thoroughly bad book with contemptuous indifference is, on the whole, a wise one. There are, doubtless, occasions when the interests of the profession are better served by exposing, immediately and thoroughly, a book which is either so bad as to be mischievous, or so pretentious as to attract by a false appearance of merit. The work before us is intrinsically neither the one nor the other; it belongs rather to the category of those which are best passed over in silence. This attitude we would willingly have adopted, were not the fact of its having so rapidly attained to the dignity of a second edition ample evidence that its title, or some other external attribute, is sufficiently attractive to mislead. Internally the impartial critic will seek in vain for aught that can even charitably be described as merit.

On the very first page, in the Preface to the second edition, he will encounter a passage which affords an earnest of what is to follow. "The text has been carefully revised and a few slight additions made to it. The latter were less necessary, inasmuch as the book does not profess to be an exhaustive treatise upon the subject of Constipation, but merely to lay stress upon certain methods of diagnosis and treatment." For less than the faults of grammar and composition here displayed, that stern dis-



ciplinarian, Macaulay, would have prescribed a sound whipping for a schoolboy. They are, nevertheless, as nothing compared with what is to be found in the text which has been "carefully revised."

The modern treatment of Constipation necessitates an introduction in the form of a dissertation on normal peristalsis, which is also so engagingly modern that it omits any mention whatever of the action of the longitudinal fibres of the small intestine in the production of the phenomenon. In the modern estimate of the process these are apparently too insignificant for notice; it is, nevertheless, to be profoundly hoped that such slipshod dealing with the subject would ensure his deserts to a student presenting himself for his second professional examination. The small intestine is not a pop-gun.

Under the heading of Diagnosis occurs the following:—

"(1) *We go carefully into the history of the case.* A great deal of information may be derived from this. I need only mention the progressive emaciation and pallor of malignant disease." There is, of course, no harm in the mentioning. It would, nevertheless, be well to select for the purpose an occasion where the progressive emaciation and pallor had some intelligible connection with the context. In this instance, it would have been as apposite to have called attention to the clubbing of the fingers in bronchiectasis.

But the gem of the book is to be discovered by the earnest seeker after the latter-day triumphs in the Diagnosis of Constipation at page 13:

"It is important to bear in mind an important point." This surely is the quintessence of concentrated wisdom, beside which the copy-book headings which gave renown to a prominent politician in the *soubriquet* of "Old Morality" pale into absolute insignificance. "It is important to bear in mind an important point. This is, that whilst the finding by palpation of fœcal masses in the colon makes our diagnosis conclusive, the converse does not hold good." Now, it is scarcely necessary to remind the readers of this JOURNAL that the converse of the above proposition is as follows:—"The finding by palpation of our diagnosis in the colon makes fœcal masses conclusive."

How anything like this can "hold good" outside Bedlam it passes the wit of the reviewer to comprehend. What the author probably means is that a negative result of an examination should not be considered conclusive; but if so, why, in the name of Lindley Murray, does he not say so?

The only possible excuse for the appearance of a book having for its title a condition which is symptomatic of many diseases is its presentation of an exhaustive enquiry into the departures from health in which the condition is a prominent manifestation. And even so, such a method is liable to be clumsy, superficial

and meretricious. To say that the book before us fails to reach the required standard is to compliment it too highly. It belongs, in truth, to a very pernicious type of medical literature. It contains little or nothing that is original, and is doubtless given to the world with a shrewd notion that it will find its readers amongst the suffering public rather than among the members of the profession. That such a forecast has proved correct the appearance of a second edition is evidence enough, for no medical man in search of scientific enlightenment upon the subject would get beyond the thirteenth page. "It is important to bear in mind an important point." It is indeed, and for the author, it is important to bear in mind that some dignity of purpose and some knowledge of English grammar are all-important in medical literature.

**THERAPEUTIC ELECTRICITY AND PRACTICAL MUSCLE TESTING.** By W. S. Hedley, M.D., M.R.C.S. London: J. and A. Churchill, 1899.

The definition of the area in which electricity may claim to have established itself as a successful therapeutic agent is, we imagine, for the general body of the profession, far from being exact. Possibly on account of the uncertainty which attends the manner of its action, and possibly also from the fact that as a mode of treatment it has at times been found in very bad company, electricity cannot boast the possession of a large measure of either professional confidence or professional employment. A third influence in producing this result is, doubtless, the want of familiarity on the part of many practitioners, both with the apparatus necessary for the practice of electrical treatment, and with the significance of the terms by which the various parts of this are described. It is only in comparatively recent years that our large hospitals have secured the necessary equipment, and even now the application of this in the treatment of disease is far from occupying a prominent position in the hospital training of the medical student. The result of such conditions is that electricity is, we think, fully entitled to complain that she has not had a fair trial. But her advocates are increasing in number and importance, and are making in a perfectly legitimate manner an appeal to the attention and judgment of the profession. If at times their statement of the case seems to be marked by the exaggeration and partiality not infrequent in those who plead for a cause, they may at least claim that they have earnestly studied the subject, and that their work and method are more likely to succeed in the discovery of the truth than is the somewhat supercilious neglect so frequently practised by their critics. We imagine that our present author will have no objection to be ranked with the last. But his book shows that he has given an amount of time and thought to the

study and practice of electrical therapeutics which may well make many consider whether they are not seriously neglecting a most important curative method. Should any of our readers, for any cause, have reached this frame of mind and be anxious to bring forth fruits meet for repentance, we can assure them that Dr. Hedley's book offers them abundant opportunities for the cultivation both of faith and good works. It has the great advantage of being written in a lucid style, and of providing a very satisfactory discussion of the meaning of electrical terms, and a copiously illustrated description of the forms and uses of electrical apparatus. The information afforded on these matters is very complete, and is marked by full and exact knowledge of practical detail. A similar comment is deserved by the careful and precise directions which the author gives for the actual applications of the several forms of electricity, and for the use of the numerous and varied appliances by which these are utilised in the treatment of disease. We confess that, at times, his views and recommendations as to the efficacy of his pet agent suggest a degree of devotion to which, personally, we are unable to attain. It would have been well, we also think, to have omitted the descriptions of nervous and other diseases, which are regarded by the author as suitable for treatment by electrical methods. They are necessarily very incomplete, and merely increase the size of the book without adding to its value. Further, the introduction of them, with, in each case, the prescription of specific electrical treatment might seem to suggest that this is the one and only remedial agent needed to meet the position. This, of course, cannot be Dr. Hedley's view, and we think it would perhaps have been better if he had either made his book a complete work on treatment, or confined it within the limits suggested by the title. The profession, we hope, has no more charity for the man who proclaims himself a practitioner of therapeutic electricity than it has for the professed devotee of any other single therapeutic measure.

But while we dissent from Dr. Hedley on the point of policy just referred to, we are very pleased to testify to the sterling merits of his work, and we commend it to the profession as a well and clearly written, and very complete manual of the methods of applying electricity in the relief and treatment of disease.

OCCASIONAL LECTURES ON THE PRACTICE OF MEDICINE. By W. B. Cheadle, M.D., F.R.C.P., Senior Physician to St. Mary's Hospital. London: Smith, Elder, 1900.

When a hospital teacher of wide experience and ripe judgment descends from the lecturer's rostrum to talk familiarly, and even confidentially, he generally says that to which the wise

man lends a willing ear. And that is how this book strikes us. Dr. Cheadle does not seem to be speaking, in the theatre or in the wards, with the solemnity befitting such surroundings; rather does he appear to unbosom himself in the easier atmosphere of tobacco, of slippers and an armchair. The result is a book which while pregnant with thought and observation, and teeming with instruction and help, is as delightful to read as a novel by Rudyard Kipling.

Many schools appear to be worked on the assumption that the whole duty of a teacher is to dogmatise and the whole duty of a student is to diagnose. The former spends much of his time in tabulating symptoms, the latter in efforts to digest them. Thus it happens that the ordinary licentiate too often finds himself launched on the troublous waves of general practice, laden heavily with signs and symptoms of classical diseases which he will seldom encounter, and full to overflowing with the distinctions between cocci which he will never see again, but lamentably ill-equipped for the treatment of those minor ailments upon which much of his early reputation will depend. The man who belittles the prime importance of correct diagnosis is, of course, past praying for, but in dissociating ourselves from any such position, we are free to recognise that correct diagnosis is not, as far as the public is concerned, an end in itself. The patient in our consulting room is doubtless much impressed when told that he has neuralgia of the supra-orbital branch of the fifth nerve—it sounds classical enough—but he is infinitely more concerned to have the neuralgia relieved and to be told how long he will have to endure it. The knowledge necessary to afford the relief and to give the required information is nevertheless precisely the sort of knowledge which is not acquired by the average student at the average hospital, and its absence at the commencement of a career may give rise to serious discredit. If there were more teachers like Dr. Cheadle there would be less cause for complaint in such matters than now unhappily exists. His book is full of suggestions and hints of a thoroughly practical nature, and even the most experienced cannot fail to be the wiser for its perusal. The titles of some of the chapters sufficiently indicate the modest scope of the work. "The Use and Abuse of Tonics"; "The Clinical Uses of Opium"; "Prevalent Fallacies in the Diagnosis and Treatment of Certain Minor Disorders of Childhood"; "Chronic Constipation and Dilatation of the Colon," are not very novel or ambitious subjects, and yet the manner in which they are handled seems to invest them with a fresh interest, to illuminate them with a clearer light. Sir William Broadbent is credited with the happy remark that "the dangerous practitioner is he who treats symptoms with new drugs." If Dr. Cheadle's book is as widely read as it deserves to be, there will be very few dangerous practitioners left in our

ranks, for not only does the author go to the very root of all matters of which he speaks but he re-introduces us to the merits—the sterling merits, of many of the time-honoured drugs which, in these days of elegant and “compressed” pharmacy, we are in sad danger of neglecting.

The sound common-sense which characterises the whole book is nowhere more conspicuous than in the chapter which deals with constipation. The nature of this troublesome condition, its causes and effects, are passed in rapid and succinct review; the ordinary methods of treatment are enumerated and their inadequacy and harmfulness exposed; a better path is pointed out and some illustrative cases quoted. The accessories to drug treatment, namely electricity, massage, enemata and diet, are well considered and accorded their proper place. With regard to the last-named, the author explodes, in the following terms, a fallacy which is not only popular but too often professional. “Diet is a most important agent in the case of chronic constipation, yet one mistake is almost invariably made with regard to it. Foods which contain large amounts of indigestible material, such as oatmeal, brown bread, figs, prunes, raisins, currants, jams, are almost universally ordered with the object of stimulating the bowels to act. Now, these means are not often effective alone. If they *do* act, well and good; but if they *do not* act—which is the rule—they increase the difficulty by adding so much insoluble material to the accumulation of faecal matter. These articles therefore, should never be persisted in if the bowels are not acting freely. The diet should, however, embrace a good variety of food in which fruits and soft green vegetables form a considerable part.” The warning contained in the same chapter, that the ordinary drinking-water is often a very effectual “chalk mixture,” is one which the practitioner who lives in a district supplied by a hard-water well will do well to lay to heart.

It would be as easy as it would be pleasant to select for quotation a number of passages from this delightful book to illustrate its peculiar virtues, but such a course would be unfair both to author and reader. To obtain its real value, to enjoy to the full the wholesome atmosphere which it exhales, we must, so to speak, sit opposite Dr. Cheadle and hear him talk. When the fire has become low, and the speaker has said his last word, we go forth into the night, humbled and chastened, it may be, with a sense of our own shortcomings, but infinitely grateful for the glimpse we have been permitted into the workings of so judicial, so orderly, a mind.

## CONSUMPTION FOR LAY CONSUMPTION.

CONSUMPTION: its Nature and Treatment. With a chapter on Bacteria and Antiseptics. By William H. Spencer, M.A., M.D., M.R.C.P., Consulting Physician to the Bristol Royal Infirmary. London: Henry J. Glaisher. 1900.

CONSUMPTION AND CHRONIC DISEASES: a Hygienic Cure at Patient's Home of Incipient and Advanced Cases. By Emmet Desmare, M.D. London: Swan Sonnenschein & Co. 1900.

NORDRACH AT HOME, or Hygienic Treatment of Consumption adapted to English Home Life. By Jos. J. S. Lucas, B.A., M.R.C.S., L.R.C.P. Bristol: J. W. Arrowsmith. 1900.

Books on professional topics addressed to the lay reader are apt to be unsatisfactory. They err, almost invariably, in being either too popular or too esoteric. In the one case they impart that "little learning" which is never so dangerous a thing as when applied to medicine; in the other they are so dull as to be unread by the very public to which they are addressed, so that any value which they may have is necessarily still-born. Of the booklets above specified, the first is an instance of the latter, the second of the former.

So much has recently been said and written on the subject of consumption by those eminently qualified to speak and write, that what remains is scarcely worth hearing; it is certainly not worth reading. And yet Dr. Spencer tells us in his preface that his work is no mere compilation—"What I tell of, that have I seen; what I teach, that has experience taught me." Well, we do not doubt it; but has Dr. Spencer's experience taught him aught that a similar experience has failed to reveal to others, and if not, are we not already in full possession of the inheritance thus acquired? The answer to these questions, after a careful perusal of the pamphlet in question, is to the effect that the author's experience is very similar to that of most others who have enjoyed equal opportunity with him, and that the results of their experience has been before both profession and public for many months. It has, moreover, been before the public in a form which is to be understood of the people, by whom it seems on the whole to have been readily appreciated and acted upon. Though the manner of the saying leaves much to be desired, most of what Dr. Spencer has to say is sound enough, nevertheless its utility to the lay reader is more than doubtful. From the recondites, physiological and pathological, which he is here gravely invited to digest, the ordinary citizen would be inclined to fly for relaxation to an exercise in the differential calculus. Frankly, it is very difficult to see what good purpose is served by such a pamphlet. It reminds us of the French lady who, in returning a cheque which had been sent her by a gentleman who had invited himself to tea with her, wrote as follows: "Si c'est pour thé simple, c'est trop; si c'est

pour thé complet, ce n'est pas assez." If addressed to the public the pamphlet is too much, if to the profession it is too little.

The author of the second book under consideration puts forth no claim to originality. "The object . . . is to make known the methods and the success of the treatment, and that it can be followed by the patient at his own home." This refers, of course, to the open-air methods, the propaganda for which, we are frequently reminded, were inaugurated under the presidency of the Prince of Wales, and the first portion of the book contains descriptions and illustrative cases of these methods as pursued at Nordrach, Mendip and other places. But these descriptions and cases add nothing whatever to the sum of our knowledge on these matters. Those susceptible of conviction are already convinced, so that the subject cannot be said to require further elucidation or exposition. Flogging a dead horse may be useful, as an exercise, to the flogger; to the on-looker it is entirely devoid of either instruction or amusement.

In so far as this book has any claim upon our gratitude, it is to be found in the second division, entitled "Chronic Diseases." This portion, which, by-the-by, appears to have found itself within the same covers as the first by the merest accident, contains much of the gospel of life according to the prophet Lahmann. This gospel was originally given to the world about eighteen months ago through the medium of Messrs. Swan Sonnenschein, under the name "Natural Hygiene," by H. Lahmann, M.D. It treats mainly of diet, clothing, ventilation and other items of personal hygiene, inculcating sound doctrine with freshness, force and originality. But if its tenets be worthy of acceptance they should surely be studied in the original. The disciple is possessed of infinite zeal, but he is conspicuously lacking in the experience, the persuasion and the discrimination of the master.

Of very different quality from either of the foregoing is Mr. Jos. J. S. Lucas's concise little brochure on the details to be observed if the open-air treatment of consumption is to be successfully carried out in the humble homes of those who are unable to afford the luxury of a sanatorium. With the principles which underlie the treatment all are now sufficiently acquainted, but a knowledge of those practical details which are so essential to success is by no means as general as it might be. A perusal of this little sixty-page *brochure* will be immensely helpful to the practitioner in giving instructions to his patients, and the patients themselves may safely be recommended to purchase it, at its very moderate price of one shilling, so as to refresh their memories upon important points. It is pleasant to turn to a book on this subject which is pleasantly written, compact in form, sound in doctrine, which moreover has evidently been undertaken with a view of being of real assistance to the reader. Not the least of

its merits is its modesty of tone. We are neither wearied with the narration of cases nor nauseated by frequent references to "the author's method." The work rings true and it deserves a wide circulation.

THE MEDICAL ANNUAL, 1900 Eighteenth Year. Bristol: John Wright & Co.

The appearance of each fresh volume of this work is eagerly looked for by hosts of practitioners who lack the time and opportunity of wandering in the mazes of the weekly, monthly and special journals; and for eighteen years each fresh volume has amply justified the promise of the previous one. That the "Annual" has so grown in popularity as to have become an essential in the library of nearly every general practitioner is a fact which speaks eloquently for the thoroughness and accuracy of its method of catering for the varying and ever increasing needs of those for whom it is written. To say that the present volume fully sustains the traditions of the past is but to speak the truth in terms of eulogy.

To test its up-to-dateness we turned at once to the article on "Malarial Fever," and found, as was to be expected, a full and altogether admirable account of the outcome of the recent researches, from the pen of no less an authority than Major Ross himself. Another article of quite exceptional merit is that on Mycetoma by Colonel Keith Hatch, which is splendidly illustrated by coloured plates. The scheme of the book remains the same as before, with the addition, if we mistake not, of an account of recent legal decisions on points of interest to the profession.

In the region of therapeutics we note with gratification the increasing number of morbid conditions in which certain forms of baths, and kindred methods of treatment, are given their proper places. The article on "Delirium Tremens" should be carefully perused, not only by every balneologist, but by anyone who may be called upon to treat such cases.

There is a fashion even in drugs, and that of the moment is in favour of glandular substances, among which thyroid extract is *facile princeps*. So much is this the case that it bids fair to oust that faithful maid-of-all-work Iodide of Potassium from its position in the aphorism of our student days, which henceforth is likely to read, "When in doubt give thyroid extract." It is, therefore, well to remember that even when given in cases where it has an ascertained value, the substance is by no means free from danger, and that its employment in at least two definite morbid conditions, namely, exophthalmic goitre and diabetes mellitus, will almost certainly be followed by a prompt and often grave aggravation of the symptoms.

The list of contributors to the work of the "Annual," which is a long one, contains several names of great distinction, and all



the articles are well written by recognised masters in the several departments. It is evident that neither trouble nor expense is spared in causing the book to fulfil its honest and laudable ambition of ministering to the practical needs of the general practitioner. Good, it is ; better it could hardly be.

THE MEDICAL REVIEW. Vol. ii. January, December, 1899. Edited by Nathan E. Boyd, M.D.

We have repeatedly expressed our appreciation of the matter contained in, and of the manner of production of, the monthly journal which now presents itself to us in the form of well bound, substantial tome. The value of back numbers of a periodical in book form depends entirely upon the quality of the indexing. If this is good, then it is possible to extract the grain even from an indifferent publication ; if it is insufficient the best matter is thereby rendered inaccessible, and therefore to the majority valueless. It is hardly necessary to say that this part of the work, in consonance with everything else connected with the Review, bears the mark of care and thoroughness. If the instructions of the indexer are carried out there is not the slightest difficulty in finding all the references to a particular subject contained in the volume. Those who have not taken in the separate numbers will be well advised to become acquainted with this excellent publication through the medium of the volume before us.

#### SOME CYCLE IMPROVEMENTS.

The rise and fall of remedies would make an interesting chapter in the history of medicine. Of these, bicycling as a therapeutic agent would furnish an example of the apparent caprice which seems to sway both the profession and the public in such matters. During the *furore* for the wheel which succeeded the introduction of the pneumatic tyre it was thought that we had at last discovered an out-door exercise which could be undertaken by old and young, sound and unsound, with enough of interest in it to lift it above the level of daily constitutional—the *ennui* of which was and is an adequate excuse for its neglect—which would, in fact, rob city life of half its nervous and dyspeptic troubles. The reaction, alas ! was not long in coming. Apart altogether from the dictates of fashion, which after two seasons decreed that bicycling had become *bourgeois*, if not something worse, many of those who had undertaken it therapeutically found, after honest trial, that it rendered them worse instead of better, and medical men were bound to confess that in too many cases they had been disappointed in the result of their prescriptions. The reason of this was largely that the much belauded pneumatic tyre was in reality useless for the purpose for which it was invented, namely, the abolition of vibration, and partly because the saddles sold

with ordinary machines caused the unfortunate rider to be poised on his perinæum. The results of this latter process are too well known, both from discussions and, in many cases, from bitter personal experience, to need further comment. All the ingenuity of the makers appears to have been exhausted in attempts to overcome the difficulty, and each new invention in any way connected with bicycling, from the acetyline lamp to the free wheel, has been gravely advertised as warranted to abolish this pressure.

Comfort in a saddle is of course largely a matter of idiosyncrasy ; what is ease to one person is purgatory to another, but nearly all saddles are open to the objection of being very uncomfortable towards the end of a long ride. This is due to the fact that there is no "give" in them ; no allowance is made



FIG. 1.

for that difference in girth of the muscles about the gluteal region which occurs in the flexion and extension of the thigh. The Esmond saddle overcomes this difficulty very efficiently, but then the Esmond saddle is possessed of a very uncompromising peak which is sufficient to make many riders fight shy of it. A device called the M.C. Patent Oscillating Saddle-pin was introduced towards the end of last season, the object of which is to allow each rider his particular fancy in saddles, while permitting him at the same time to enjoy the advantages of free thigh movement. This is achieved by having the cross-pin, in the ordinary  $\neg$  shaped saddle-pin, so constructed that instead of being fixed, it is free to oscillate on ball bearings over a central stem or spindle, the amount of the oscillation being limited by

suitable stops. The device, which is the invention of a medical man, is to be seen at Crowsley's, 167, Victoria Street, S.W. There is no doubt in the minds of those who have tried it that in this invention we have a practical solution of the vexed saddle question.

But serious as are the difficulties of saddle discomfort, they are as nothing compared with the serious troubles which are apt to arise from vibration. The pneumatic tyre, as far as the back wheel is concerned, is, as already stated, really quite useless. If it is tight enough to run freely, instead of absorbing vibration,

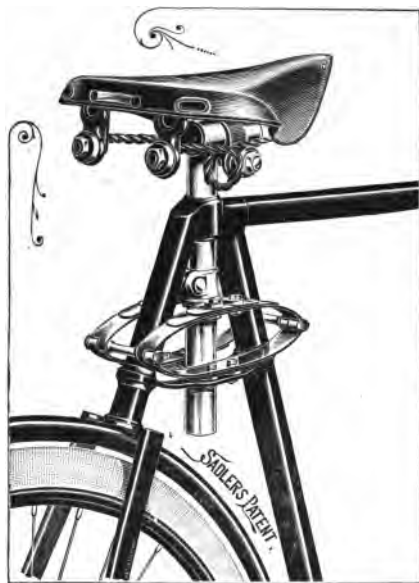


FIG. 2.

it plays cup-and-ball with the rider in his saddle. If, on the other hand, it is deflated enough to abolish the bumps, one might as well be riding uphill with the brake on. Mr. E. B. Turner, F.R.C.S., has shown, in the *C. T. C. Gazette* and elsewhere, that fatigue in bicycling is induced not so much by muscular exertion as by spinal irritation, and it has of late been repeatedly pointed out that, until the introduction of some means of absorbing vibration more efficient than that afforded by the pneumatic tyre, the bicycle cannot be considered a suitable form of exercise for those in whom debility, especially nervous debility, is at all a pronounced symptom.

In the accompanying illustration (fig. 2) is shown a plan for overcoming this difficulty which has been patented by Mr.

Sadler and adopted by the Riley Company. There is a slight modification of the ordinary frame, enabling the saddle pillar to be supported on two carriage springs, one on each side. The effect of the rider's weight in the saddle is to fix the upper limb of the spring and so cause the lower one to absorb the vibration. That it fulfils the function there can be no manner of doubt.

A trial over some of the roughest wood pavements in London (they are easy to find) left us with the conviction that it would be almost impossible to imagine a contrivance better suited to its purpose, or less likely to get out of order, than this adaptation of an old and simple principle to the needs of the bicyclist.

With these two much needed reforms in bicycle construction a medical man will be able to prescribe cycling exercise to his patients with a confidence which previous experiences may have done much to shake.

CRURIN. Thos. Christy & Co.

This substance, which is a double rhodanate of chinolin and bismuth, having the formula  $(C_9 H_7 N. H.S.C.N.)_2 Bi (S.C.N.)_3$  is a coarsely granular powder, orange-yellow in colour, with a melting point of about  $200^{\circ} F$ . It has a pungent smell and is insoluble in water, alcohol and ether. It has been extensively used in Germany since 1897, by A. Rose, L. Forcheimer, K. Steiner and Max Joseph, in the treatment of ulcers of the leg. The two last-named, in the *Therapeutische Monatshefte* and *Dermatologisches Centralblatt* respectively, report most favourably upon its curative powers, even in cases which have obstinately resisted all other forms of treatment. It is applied as a dusting powder, and gives rise, in most cases, to a brisk sensation of burning, which, after about ten minutes is followed by a sense of comfort and well-being. It is well to begin using it mixed with equal parts of starch powder, which seems to prevent the burning without impairing the efficacy of the drug. In about ten to twenty days, according to the severity of the case, under this treatment, combined of course with careful bandaging, the ulcers heal and the concomitant redness and oedema completely disappear. Steiner reports nine cases of various degrees of ulceration thus treated without a single failure and without any bad effects. Max Joseph considers crurin absolutely indispensable in his dermatological clinic.

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### Notes.

UNDER the will of the late Dr. Samuel Hyde, the Society has become possessed of the whole of his medical library. Those works which have any bearing upon balneology and climatology have been catalogued and placed in the library of the Society. A list of these, prepared by the Hon. Librarian, will be found on another page.

THE increasing importance which is being attached to the treatment of various morbid conditions by baths and waters in this country is evident from the frequent references to such methods in the medical press. The special Spring Number of *The Hospital* (April 7) contains a very excellent and well-written article dealing with the whole subject in very considerable detail, and we are glad to note the promise, contained in the last paragraph, of a further contribution from the same pen treating of the clinical selection of cases suitable for different spas.

THE monopoly formerly enjoyed by foreign health resorts is gradually but surely giving place to a due appreciation on the part of the profession of the value of home stations. Much has been done by the Fellows of this Society to attain this result, but much remains to be done in bringing pressure to bear upon those in authority at the British spas to remove some of the reproaches under which they now labour.

FROM a general therapeutic standpoint the most thorough-going anglophile is obliged to admit that, in many cases, better results are obtained in foreign than in English spas, even where the balneological and climatological conditions are practically identical. The reason, of course, is that the general conditions of life, the surroundings, and more especially the diet, are more carefully considered, and more thoroughly changed from what is customary with the invalid than is ever attempted in this country. If spa treatment is to develop with us as we would

see it develop, the local physician must take a leaf out of the foreigner's book, and so arrange matters that his patient is as effectually removed from the many influences which have combined to produce the disease as if the invalid were sent across the Channel for a cure.

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IT is idle to reply, as is so often done, that each case must be treated on its merits, and that routine dietaries are unscientific. By the skilful physician every case *is* treated on its merits, but there is nothing unscientific in the practical recognition of the fact that every climate, and hence every spa, has a dietary under which the majority of those visiting it will obtain the maximum of benefit. And even if such a patent fact goes unrecognised, who, with any experience in such matters, can belittle the value of the element of complete change of diet, surroundings and methods of life to the subacute or chronic invalid? These three are important, but the greatest of these is diet.

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THERE are two other factors which act as serious handicaps upon our home stations in their competition with their foreign rivals. One is the absence of amusements, the other is the absence of politeness among both attendants and officials. We, as a nation, are said to take our pleasures seriously, and, however that may be, there can be no doubt that we are compelled, *nolens volens*, to take our spa treatment funereally. The authorities at foreign resorts lay themselves out to amuse and interest their visitors, those at home live in such deadly fear of the next rate-payers' meeting that the goose which should lay the golden eggs is sterile from sheer starvation. It says much for the patriotism of English physicians, and more for the endurance of English invalids, that the former should recommend and the latter survive some of the places which claim to be resorts for the ailing.

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OF the existence of the other factor, namely, the rudeness and want of sympathy among bath attendants, there seems, unfortunately, to be no doubt. This is a point upon which there is a consensus of opinion among those who are in the habit of visiting stations both at home and abroad, and Dr.

Felkin again called attention to it in the discussion reported in this number. Here, at any rate, is a matter in which improvement is not only possible but absolutely imperative. Whether or not "manners makyth man," there can be no doubt that their absence will mar a health resort.

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DR. SYMES THOMPSON has recently said that there was in the climate of Egypt a subtle something which seemed to make for peace and rest in a higher degree than was to be found elsewhere. These conditions, whatever they may be, have recently been re-inforced from a therapeutic standpoint by the establishment at Helouan, near Cairo, of a very complete thermal establishment. The medical arrangements have been planned by Dr. Page May, and include conveniences for all the modern forms of treatment. One of our most distinguished Fellows, Dr. George Oliver, of Harrogate, than whom the profession recognises no higher authority on balneology, has recently visited the place, and we hope before long to receive a note on the subject from his pen.

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A SENSE of humour does not often flourish in corporate bodies. If it did, the claims put forth for particular health resorts by those interested in their welfare would sometimes be less extravagant than they now are. When we are gravely informed that Sidmouth, Torquay and Falmouth are really very bracing, we smile indulgently the smile of the man who knows, but what should be our attitude when Lowestoft, the most easterly place in England, masquerades as a winter station, boldly challenging comparison for "general climatic virtue" (whatever that may mean) with any south-coast winter resort? Lowestoft has many climatic points of importance which make it an exceedingly valuable resort, and it is a great pity that it does not content itself with advertising these, in preference to making claims which to the veriest tyro in climatology can only seem ludicrous.

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THE effects of bracing climatic conditions on human enterprise are well described by a recent writer on South Africa, who, in describing life in Johannesburg, says :—"Never have I been so

struck with the intellect and the audacious enterprise and foresight of great business men as here. Nor are these qualities confined to the Beits and Barnatos and other great capitalists ; the town bristles and throbs with industrial and commercial energy ; the bracing physical atmosphere (Johannesburg stands 6,000 feet above the sea) has marvellous tonic influences to evoke and stimulate mental energy. Every one seems alert and tense, eager to grasp the skirts of some happy chance and raise himself, as he has seen some scores of others, no better than himself, raised to sudden affluence. The utter dependance upon financial "booms" and "slumps," conjoined with the strain and kaleidoscopic changes of the political situation, has bred by selection and education a type of man and of society which is as different from that of Manchester as the latter is from the life of Hankow or Buenos Ayres."

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IN another place the writer calls attention to the enormous preponderance of Jews in the population of the town. Not the least remarkable characteristic of this wonderful people is the readiness with which they adapt themselves to all climates. The conditions at one place alone on the civilised globe seem to be inimical to their expansion. That place is Aberdeen, and the fact is due to causes which are probably other than climatic.

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THE following story from South Africa reaches us from a high authority. After the battle at the Modder, an Irish soldier, carrying his rifle in one hand and holding on to his right jaw with the other, presented himself at a field hospital. When the surgeon was at liberty the following conversation took place :—

"Well, my man, what can I do for you ?"

"Och, dochter dear, I jist want ye to take out a bullet that's knocked out two of me teeth."

"All right ; sit down . . . Is that the only place you feel any pain ?"

"Troth and that's all, and its plenty."

"But are you sure you have no pain anywhere else ?"

"Sorra a bit ; only I feel confused like."



“Well, it’s no wonder you’re confused like, that bullet in your jaw *got there through the top of your head!*”

The patient recovered. And yet people talk about the fiendish cruelty of exposing the brains of dumb animals under an anæsthetic.

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A VERY useful and carefully written book by Mr. Stephen Paget, entitled “Experiments on Animals” (Fisher Unwin), showing in plain, uncontroversial and moderate language, to what an extent surgery and medicine have benefited by such experiments, has given occasion for the enemy to blaspheme. That truly courteous gentleman, the Hon. Stephen Coleridge, who has so often demonstrated the niceness and delicacy of his controversial methods, has produced a reply entitled “Some Accidental Omissions in Mr. Paget’s Book,” in which he indulges in much the same sentimental and inaccurate gabble as procured for him such a handsome chastisement from the pen of Professor Schäfer about a year ago.

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MR. COLERIDGE asks, in his peculiarly graceful and polished style, “what benefit accrues to us from knowing that different bits of the brain attend to different bits of the body?” Well, if Mr. Coleridge has such a large and sensitive heart that he can tear a passion to tatters over a curarised cat, is it not curious that he can remain unmoved at the spectacle of a child with a tumour on its brain? Or is it that he is ignorant of the fact that vivisection has given us the power, through the very knowledge which he derides, to remove that tumour and restore the child to bodily and mental sanity? It is doubtless convenient for anti-vivisectionists to be ignorant of such things, because to know them would be to acknowledge the world’s indebtedness to that terrible ogre, Mr. Victor Horsley. But if they have not any knowledge of these things why do they presume to discuss them with those who have?

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IT is not generally known that we owe the invention of the laryngoscope, not to a member of our own profession, but to a gentleman, still happily alive at the age of 95, who was one of the greatest of singing-masters. Señor Manuel Garcia was born in

Madrid, but when he was 45 years of age he came to reside in this country, where he has instructed most of the famous operatic singers of the day. He thus describes how he "discovered" the instrument which has been of such great advantage to suffering humanity :—

"Never being thoroughly satisfied with my own teaching, I longed to see a healthy glottis exposed in the very act of singing ; but how could the mysteries of an organ so well hidden be revealed ? One day in the autumn of 1854 I was strolling in the Palais Royal, preoccupied with the ever-recurring wish, when suddenly I saw the two mirrors of the laryngoscope in their respective positions, as if actually before my eyes. I went straight to Charrière, the surgical instrument-maker, and, asking if he happened to possess a small mirror with a long handle, was supplied with a dentist's mirror. Returning home I placed against the uvula the little mirror (which I had heated with warm water and carefully dried), then flashing on its surface with a hand-mirror a ray of sunlight, I saw at once the glottis wide open before me, so fully exposed that I could see a portion of the trachea. From what I then witnessed it was easy to conclude that the theory attributing to the glottis alone the power of engendering sound was confirmed ; from which it followed that the different positions taken by the larynx in front of the throat have no action whatever in the formation of sound."

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A medical man of our acquaintance had two lady patients in different nursing homes undergoing the "Rest cure." With a view of stimulating each to do her utmost, he instituted a rivalry between them in the matter of the weight gained per week. One of them broke into verse on the subject :—

'Tis not the "Flue" has laid me low,  
They're misinformed who told you so ;  
'Tis want of tissue adipose,  
Which you'll admit is "autre chose."

They call it Rest, this stuffing cure,  
You little know what we endure ;  
We may not move or speak or think,  
But only sleep and eat and drink.

A wee bit lady, from hill-station,  
 Now adds to my humiliation  
 By saying she will beat me hollow,  
 It's so upset me I can't swallow.

\* \* \* \*

Just now I have no more to say,  
 Next Tuesday is our weighing day,  
 And then our doctor will pronounce  
 Who wins—by stone or pound or ounce.

The writer of these lines sustained a crushing defeat at the hands of her rival on that fateful Tuesday; whereupon she indited :—

#### THE LOST WAGER.

My nurse and I, we've thumped our heads,  
 We've torn the blanket into shreds,  
 We've hurled ourselves against the wall,  
 The Indian's won! Confound it all!

With admiration mixed with awe  
 We've heard of all she's eaten—Lor!  
 Alack, why was I such a duffer  
 To take on such a champion stuffer!

I sue for peace without condition,  
 Lay down my knife and fork and listen;  
 Terms of surrender *you* propose,  
 Oh, that we never had been foes!

There's nothing that I would not do  
 For such a heroine as you;  
 And should we ever chance to meet  
 I'll black your boots—'twould be a treat!

This evoked a reply from the other, as follows :—

Lady, in true and heartfelt sympathy  
 I pen this lay,  
 For comrades we, in gorging all we know,  
 Day after day.  
 'Tis true that in our contest fiercely striven  
 I've won the prize,  
 But hideous nightmares haunt me when I close  
 My weary eyes.

Cream, mutton chops, bananas follow fast,  
 A gruesome tale!  
 They disappear—but, o'er the sequel, friend,  
 Pray draw a veil.

I turn with loathing from each groaning tray  
 Conveyed by "nurse,"  
 And as the meals in quick succession come,  
 I deeply curse.

My hopes are fixed on that yet distant day  
When this shall seem  
A half-remembered tale of misery,  
A woeful dream.  
Then we shall point in just superior scorn  
To scraggy bones,  
Conscious that we with pounds of flesh are clothed,  
Yea ! *stones* and *stones* !  
I drink your health in every quart of milk,  
My generous foe !  
And gain, perchance, an unknown poet friend  
In doing so.

Lest it should be thought that this outburst of literary energy militated against the treatment, we are to state that the gain in weight in the case of the "Indian" was two stone.

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THE Chairs of Medicine in the two great northern Universities of Edinburgh and Glasgow are vacant ; the former actually, the latter prospectively. Rumour ascribes to several distinguished physicians the desire to transplant themselves from their present positions into that recently occupied by Sir T. Grainger Stewart. Professor William Osler is said to be a candidate, so is Sir Thomas Lauder Brunton. Dr. Osler is one of the few people who would confer greater distinction on the Chair than it could possibly confer on him, and it will be surprising if those responsible for the appointment do not seize the opportunity of electing a gentleman with a reputation in two continents. Born in Canada, of Cornish parentage, Dr. Osler is Professor of Medicine in an American University. He has written, among other things, quite the best text-book on general medicine now extant.

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HIS most serious rival for the coveted position is likely to be Sir Thomas Lauder Brunton, who, although a physician who has won for himself great distinction in London, is probably best known as one of the greatest living authorities on matters pharmacological. The recent addition of his name to the list of medical knights was highly popular in the profession.

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THE Regius Professorship in the University of Glasgow, so long illuminated by Sir William Gairdner, will be vacant at the close of the coming summer session, that distinguished physician

and great clinical teacher having decided to retire. It will be impossible to fill the place Sir William Gairdner has occupied in the medical life of the West of Scotland, and the Glasgow school will be the poorer to an incalculable degree by the withdrawal of his stimulating scientific influence.

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It is said to be looked upon as a foregone conclusion that the Chair will fall to the lot of the present Professor of Clinical Medicine, Dr. McCall Anderson, the vacancy thus created being filled by Dr. James Finlayson. It is, nevertheless, more than likely that such a position as that rendered famous by Sir William Gairdner will be eagerly sought after by physicians from other schools, and it might well be that those who are unsuccessful in Edinburgh would be quite content with the Chair in the sister University.

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THERE is one aspect of the position, created by the fact that the Edinburgh and Glasgow Chairs of Medicine are both vacant at one and the same time, which is not without amusement. It is an open secret that some influences have been at work with the object of inducing Professor Osler to become a candidate for the Edinburgh Chair. This proceeding has excited the stern disapproval of the editor of the *Scottish Medical and Surgical Journal*, who considers the claims established by the work and services of the local candidates to be so strong as to entitle these gentlemen to the first consideration. But when the same journal, the editor being an Edinburgh physician, comes to comment upon the Glasgow vacancy, he ingenuously closes his article with a laudatory remark on the virtues of the Edinburgh method of training, as one leading to the production of numerous teachers suitable for election to professorships. In the eastern city, we are in substance told, they always have on hand a large supply of these promising candidates, not only for home use, but also for exportation. Thus, when the vacancy happens *not* to be in Edinburgh, the claims of local men do not stir the sympathies of this professedly national journal, and what is sauce for the Edinburgh goose is not in its view to be sauce for the Glasgow gander. There exists, across the border, a special form of prayer in which the petitioners beg that they may be endowed with a

"guid conceit o' oorsells." This humble orison appears to be no longer required in the litany of the Edinburgh school.

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THE people at Birmingham have succeeded in making their experiment of introducing a cheap consultant into the town. The gentleman who has been induced to accept the post is a recent M.D. of Dublin, who had a distinguished career as a student both in Arts and Medicine. Leaflets are being distributed broadcast over the town announcing that this gentleman may be consulted at such and such hours for such and such fees. Whether such conduct will bring him within the rather erratic purview of the General Medical Council remains to be seen. In either event it is a great pity that what ought to have been a promising career should be thus marred at the outset.

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MR. PERCY DUNN, who edits the *West London Medical Journal* so successfully, has been having what he calls a "little grumble" with his contributors (a little grumble *at* his contributors would have been better), in which he says "the term 'reliable,' if used at all, should be strictly 'reli-on-able'—which is cumbersome—and therefore the correct word in such cases is 'trustworthy.'" Now "reliable" is euphonious and has the merit of being shorter than "trustworthy;" moreover it is, in spite of what Mr. Dunn conceives it should strictly be, a standard English word. Mr. W. W. Skeat, than whom there is no greater authority, in his Dictionary (Third Edition, p. 500) says of it:—"A compound adjective which has completely established itself, and is by no means a new word, to which many ignorant and frivolous objections have been made; it was used by Coleridge in 1800, in the *Morning Post* of February 18." That's all.

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IF Mr. Dunn and other editors of his standing will consent to allow contributors their little fancies in words ("tubercular" is really quite as good and quite as expressive as "tuberculous"), and would confine their "grumbles" to such terrible inelegancies of construction as the split-infinitive, *e.g.*, "to cleverly, carefully, and even lovingly adjust," they would confer a great boon upon readers of medical literature, in which this particular weed flourishes with hideous luxuriance.

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- Health Abroad, a Medical Handbook of Travel by Various Writers, edited by Edmund Hobhouse, M.D.
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## PERSONAL EXPERIENCES OF GOUT.<sup>1</sup>

BY A. S. MYRTLE, M.D. (HARROGATE).

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MEDICAL men seldom record their personal experience of any disease they may have suffered from—this is a matter of regret, for who so able to throw light on the symptoms and course of any health derangement, or give as reliable account of the action of remedies employed as he who is both doctor and patient. Many years ago a heavy hunter fell with me whilst crossing a pavement, my left knee was crushed between his body and the flags and severely injured; since then the joint has frequently caused me trouble in the way of effusion, &c., and during the last three years been occasionally the seat of gout. In 1894 I began with gouty prostatic bother, and since have had to resort to catheterism more and more. In 1896 I experienced the effects of ptomaine poisoning from eating partridge; for long after that my life was made miserable by the most persistent gouty dyspepsia, with constant nausea and occasionally painful gouty heart irregularities. In 1897 I had a sharp attack of acute pain, neck of bladder; my son pronounced it gout, a

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<sup>1</sup> Read at a Meeting of the British Balneological and Climatological Society, April 26th, 1900.

surgeon stone, and he passed a sound but no stone was there. This of course gave me great pain, but to my surprise was followed by as much relief, for I could pass water with greater freedom and could retain a much larger quantity than I had done for years ; the usual remedies were resorted to, and in a short time I thought I had got rid of my enemy, but some days after the introduction of the sound cystitis set in and for weeks I passed large quantities of pus, mucus and occasionally blood. This was treated by boric acid injections and salol, internally. From the time of my prostatic trouble, in order to enable me to attend to work as well as to ease me of the intolerable nuisance of frequent micturition, I had recourse to hypodermic injections of morphia. After two years' indulgence in this I found after every injection a hard circumscribed painful swelling appeared, similar to erythema nodosum without redness, and remained for weeks, so that my arms presented a series of small hills and valleys. I had to abandon the syringe and take the morphia by mouth. I now consume four grains daily without the slightest inconvenience and with the greatest comfort.

In 1898 I had two attacks of gout in left patella. On going upstairs every step was accompanied by a sharp cutting pain ; each attack left suddenly to be followed by metastasis to right testicle, which became as large and nearly as hard as a cricket ball ; this yielded in a few days to full doses of colchicum and painting with guaiacol and tincture of iodine. This application gave rise to itching, and for months I spent much of my time in bed in scratching ; there was nothing to be seen, but now in one part, now in another, from head to foot the irritation was maddening. I found the greatest relief from sponging with sanitas ; I am inclined to think that the morphia habit is partly the cause of the cutaneous bother, as I am still troubled with it.

On November 7, I retired feeling quite well ; about 4 a.m. (8th) I awoke with a severe pain about the lower third of adductor longus left thigh ; on rising to see what was wrong, the pain became so intense I had to lie down at once. On looking at the part I found the muscle swollen, hard and painful ; by seven o'clock the entire extremity was swollen, the muscles of the whole thigh and leg were hard, extremely painful on pressure

or movement ; there was no redness, the skin felt cool but seemed on the stretch. My son saw me at nine ; after careful examination, he said, "I have never seen anything like this, it must be gout." He found nothing in the way of tenderness over veins, no cording of lymphatics. I could bear deep pressure in inguinal region, there was no glandular enlargement and no œdema ; ordered absolute rest, colchicum, lysidue and convallaria, these I took regularly for two days every three hours, when the acute pain subsided. On the morning of the 12th I noticed great fulness left hip, found œdema from crest of ilium round waist to spine, sacrum and buttock ; this could be traced downwards, outside thigh, calf, ankle and foot, but there was very little found on inside of limb. The muscles were still painful on pressure or movement, and hard as wood ; the tape showed that the left extremity from hip to foot measured about three inches thicker than its fellow ; all this time I had no constitutional disturbance and as long as I lay still on my back I was tolerably easy. To relieve tension and soften the muscles, I had for three days a local Greville hot air bath, temperature 260°, for thirty-five minutes, and then for another three days a full length Greville, temperature 360° for forty minutes. These gave good results, especially as regards the muscles of the thigh and œdema, I could move without pain, the muscles were a little less hard, I could also assume the erect posture and walk a few steps, from knee downwards there was little change, and the skin over tibia became glazed and intolerably itchy. As I could not go to my favourite remedy for such a condition, a sulphur bath, I bethought me of Father Kneipp's hay flower baths, so took six of these in my own room, temperature 98°, and I remained in thirty minutes ; the effect was most soothing, but beyond relieving the cutaneous irritation they did nothing, and the leg from knee to foot remained as big, hard and œdematous as ever. After my last hay flower bath I was attacked with flying rheumatic pains in shoulders, threatened with sciatica, lumbago and pleurodynia ; for the relief of these I took 16 grains of antiarthrin every four hours, after the sixth dose I had frontal headache with slight cardiac irregularity, but I must admit that every preparation of coal tar I have tried has had unpleasant effects, 15 grains of

phenacetin gave rise to very marked heart failure, this preparation had no such disagreeable sequents, it relieved the pain and acted powerfully as a diuretic, and I observed that with this increased flow my bladder could retain more and for longer periods, than it had done for a very long time. Instead of having to resort to the catheter every two or three hours during the day, I did not require it at all, and only twice between going to bed and getting up, and this great improvement has continued and I am much better than I ever expected to be ; during my illness the urine never showed any sediment or uric acid crystals, and only on two days was a little thick.

After eight weeks, I found I had lost flesh : arms, right leg and body were very much wasted, but on scaling I was greatly astonished to find I weighed 4 lbs. heavier than I ever did ; this increase could only be accounted for by the bulk of my left extremity. I was now able to move about, but the muscles were stiff and painful on pressure, those of the thigh had greatly diminished, but below the knee they were as large and hard as ever ; position, exercise, massage, had no influence on them, the hip joints ached, and I found walking for a few minutes was as much as I could manage. To improve these conditions I had recourse to electric baths, under the care of Mr. Rhodes, Medical Electrician to the Royal Baths. I began with full length baths with constant current ; after each I had the interrupted current passed through spine to all the muscles affected ; after the third the change was most gratifying, the oedema was greatly lessened, the size, tenderness and hardness diminished, and with that the walking power restored to some extent. In the electric current, we have a most powerful, valuable therapeutic agent in dealing with chronic gouty and rheumatic enlargements ; I have used both constant and interrupted currents with the very best results, when all external and internal remedies had proved of no use, but it must be properly, regularly and judiciously applied. It was astonishing to watch the way in which my deadened muscles refused at first to recognise a current that made me scream when passed through healthy fibre, and gradually day by day they began to twitch and feel like healthy tissue.

Dr. Eddison and Mayo Robson, of Leeds, Dr. Neville

Williams, of Harrogate, as well as my son and self, agreed that we had never met with such a case—thrombosis of veins, superficial and deep. Obstruction of lymphatics were spoken of, but from the first no vein showed any sign of inflammation or obstruction ; there was no knotting, or hardening of lymphatics, and no glandular enlargement ; if the enlargement and œdema were caused by obstruction of either vascular system, how are we to explain the course of the œdema ? it began high up above all vessels and gradually passed downwards, keeping to the outside of the limb to the foot ; whilst there was scarcely any effusion throughout the entire extent of the inside, no pain was felt on strong pressure over the course of any vessel or gland. Another feature was the absence of all constitution disturbance from first to last ; my pulse remained as soft and regular as in health, my temperature was never taken, and as long as I remained still on my back I was comfortable. During the summer and till the day of my seizure, I felt most uncomfortably and unaccountably hot, I broke into violent sweats, longed for fresh air, and divested myself of as much clothing as possible. My idea is that gout had been silently at work for a long time, suddenly it broke out with explosive force, invading the muscular and connective tissues of my left thigh and leg, but avoiding joints, vessels and tendons ; had such a burst taken possession of any important organ, I have little doubt it must have proved rapidly fatal.

The PRESIDENT : You have heard a most graphic account of Dr. Myrtle's illness, and there are many points of interest connected with it. I shall be very glad if any of the Fellows present will give us their views upon the subject. Perhaps Dr. Luff will speak on the question.

Dr. LUFF : I rise in response to your request, Sir, but I think that, although we are extremely sensible of the courage that Dr. Myrtle has shown in giving us these experiences, the subject will scarcely lend itself to discussion. I think that most probably this was an acute attack of gouty myositis ; that, it appears to me, is the most likely explanation of it. But I scarcely feel myself in a position to discuss the question, and I can only say that I, I believe in common with all the Fellows of the Society, feel greatly indebted to Dr. Myrtle for so kindly

coming forward and giving us this personal account of his very unfortunate experiences.

Dr. BEZLEY THORNE : I should like, Sir, before we pass from this subject, to ask Dr. Myrtle whether, in relation to treatment, he adopted any special dieting for the gout. It would interest me, and I have no doubt that other Fellows of the Society would like to know too.

Dr. BOWEN DAVIES : I should like to ask one question. It would be interesting to us all, clinically, to know which of the celebrated Harrogate waters Dr. Myrtle took on that occasion.

Dr. MYRTLE, in reply, said : I shall answer the last gentleman first. We never give Harrogate waters in acute cases of gout or of anything else. As I think most people are aware mineral waters come into play after your active treatment has failed.

Dr. Bezley Thorne has asked me about diet and I am glad he has, for I have very strong views about it. I think I am about the oldest physician in full practice, and I have been in practice for fifty-six years. During those years I have seen a great deal. What I am amused at, above all things, is the systems of diet adopted by even the most eminent members of the profession. I first dieted myself on slops and they played the very mischief with me. Then I took to beef and mutton, and everything that was solid and substantial. I never reduced my whisky by a single drop ; I took three glasses of whisky every day from the time I lay down till I rose, and then I increased it to another at night. I had a good example of dieting the other day. A very grand old Yorkshire sportsman sent for me. He was suffering from gout. I had attended him often. He said, "I had an attack of gout when I was in town, and I went to Dr. So-and-So. He asked me about how I lived, and I told him. He said 'Do you eat beef and mutton ?' I replied 'Yes, I am very fond of beef and mutton ; I dine on beef five or six times out of seven.' He said, 'oh you must give that up ; you must live upon nothing but white meat and white fish—an egg for breakfast, but no bacon.' He asked me 'what do you drink ?' I said, 'I drink anything.' The physician said 'That will not do ; what is your favourite drink ?' 'At dinner I have a quart of champagne ; I give my wife a small glass, and I finish the rest.'" He was

dismissed with a prescription and orders to change his mode of life. He went to another doctor, equally eminent—I do not like to mention names. So this doctor took him in hand, and asked him also about his mode of life. He said “How old are you?” The reply was “68.” He said, “My dear sir, if you have lived like that and find yourself in the condition you now are in, you go on with your eating and your champagne; you could not do better.” The same man went to Manchester, where he had some little flatulence, and he went to an eminent man there. He also put the patient upon a system of dieting, one of the principal constituents of which was boiled cabbage; he was to take no potatoes. The doctor said to the man “My good sir, you must take care; you have a remarkably weak pulse; you must not go upstairs fast; you are not to hurry for the train.” He said to me “feel my pulse.” I felt it, and I never felt a stronger or a better pulse. I let every patient diet himself. When patients present me with a card of what they are told to eat and what to avoid, I say “Eat and drink whatever has agreed with you, and don’t bother about the cards. Let the meat be well cooked, and you will be alright.”

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## THE CLIMATE OF RHODESIA.<sup>1</sup>

BY H. LAING GORDON, M.D.

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THE country which is now known as Rhodesia, and which is under the administration of the British South Africa Company, is generally divided into Northern and Southern Rhodesia.

*Divisions of the Country.*—Northern Rhodesia lies to the immediate north of the river Zambesi, and comprises the whole of the British Sphere lying between the Portuguese Settlement, German East Africa and the Congo Free State, with the exception of the strip of territory forming the British Central Africa Protectorate, which lies along the western side of Lake Nyasa.

Southern Rhodesia is formed by the former provinces of

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<sup>1</sup> Read at a Meeting of the British Balneological and Climatological Society April, 26th, 1900.



Mashonaland and Matabeleland. Its boundaries are as follows : on the east the Portuguese settlement ; on the south the South African Republic along the river Limpopo westwards as far as the junction of the Shashi with that river ; on the east the Shashi as far as its junction with the Tati and Ramaquaban rivers, and thence northwards by the Shashi and Ramaquaban watershed until the Hunters Road is reached ; thence to the Zambesi River, which stretches to the north-east and forms the northern boundary of Southern Rhodesia, until the Portuguese settlements are reached.

The following remarks refer only to Southern Rhodesia, the part which has been for the longest period under British rule, and the only part in which any considerable development has taken place. I must beg leave to say that, although I am familiar with many parts of South Africa, I have not yet been in Rhodesia ; the information which I have collected in this paper is derived from the scattered records of those who have been or are now in the country, and in particular from the reports of the British South Africa Company. So far nobody else appears to have taken the trouble to do this, and the country is of such great interest at the present day and is so likely always to be of interest that the members of this Society may care to have what appear to be the facts concerning its climate and other points of medical interest presented to them in a concise manner.

Unlike the portions of South Africa with which many of us are no doubt familiar, Southern Rhodesia is situated within the tropics, its latitude reaching from  $22^{\circ}$  S. to  $16^{\circ}$  S., and its longitude from  $26^{\circ}$  E. to  $33^{\circ}$  E.

*Configuration.*—The configuration of the country has been ably described by Mr. Selous. "Throughout Southern Rhodesia there runs an elevated region which extends from the source of the Shashi on the west, north-eastwards to the source of the Hanyani River, and thence trends south-east to the sources of the Odyi and Pungwe. Along this elevated backbone runs the watershed between the Zambesi and Limpopo drainage areas, and between the Zambesi and Sabi. The whole country along the watershed exceeds 4,000 feet above sea level, rising gradually from about 4,000 feet at the source of the Shashi to 5,400 at the

source of the Hanyani." In the Inyanga mountains an elevation of 7,000 feet is reached. "The surface of the elevated belt consists of open undulating grassy downs." These downs slope gradually on the north and west towards the Zambesi and the Kalahari desert until they are merged in forests; but on the other sides, although there is also a continuous descent, the plateaux are bounded by broken country.

*Formation.*—The highlands of Southern Rhodesia are composed of granite with ranges of stratified rock running through it in many places. The granite is the most conspicuous and characteristic feature of the country, while the stratified ranges are the most attractive, inasmuch as they contain the gold-bearing quartz-reefs. The granite hills or kopjes which rise abruptly on the surface of the table-land are described as remarkable and varied in form, sometimes rising 1,000 feet, but more often about 400 feet above their bases. They are described by Mr. Swan, who accompanied Mr. Theodore Bent on his interesting expedition to the ancient ruins of the country, as composed of "enormous broken blocks, but often they are dome-shaped and of one unbroken mass of rock, and suggest the idea of huge bubbles on the surface of a molten mass. The summits of the latter kind of hills are quite inaccessible." They appear "to have been elevated by a force acting at a comparatively small distance below the present surface, and they are older than the stratified rocks of the country."

The stratified rocks run in belts two or three miles wide across the country, and although rugged and steep and often rising to 1,500 or 2,000 feet above the base they are never precipitous. The ranges are said to be regular and beautiful in contrast to the grotesque granite kopjes. The quartz-belts contain not only gold but also much iron ore, which the natives are able to smelt by a process of their own, and some manganese. Magnesia is found in the neighbourhood of Umtali, and also in the steatite or soapstone from which many objects were constructed by the ancients. "The soil on the stratified rocks is more fertile than that on the granite and the vegetation is more charming, the very coarse grasses of the granite being replaced by flowering plants."

It is evident, then, that these elevated regions of Rhodesia are widely different from the Karroo of Cape Colony, with its stony plain and quaintly shaped kopjes of broken stone, its lack of verdure and its entire lack of trees.

*Water Supply.*—But there is another and very important particular in which the table-land of Rhodesia is superior to the table-lands of Cape Colony and the Orange Free State, viz., in its water supply. Broadly speaking, in the latter regions there is no constant supply of water except during the summer, and then only when rain falls; the rivers are mostly dry except after rains, and there are few constant springs, although much has been done of late years to tap the underground water with drills, and to store the flood water in dams. In the Southern Rhodesia table-land, on the other hand, there are numerous springs and innumerable small streams which appear never to run dry, and which drain into the Zambesi on the one hand and the Limpopo or Sabi on the other. The lower levels of the country are not so well watered because they are springless themselves, and the small streams, which, according to Mr. Selous, are found at nearly every mile in the uplands, unite into large streams and rivers, widely apart in the lower country. The great river of Southern Africa, the Zambesi, is not navigable for any considerable distance, except at its mouth, owing to rapids and falls. I shall refer to it again in showing you some slides of the beautiful Victoria falls, discovered and christened by Dr. Livingstone in 1857.

*Seasons.*—The seasons in Southern Rhodesia, as in the other high plateaux of South Africa, are rather two than four; the spring and autumn are not well marked, and many observers state that summer and winter (the wet and the dry) are the only seasons. The summer begins about October, and lasts until about the end of March, while the remaining six months, April to September, broadly speaking form the winter.

*Rainfall and Temperature.*—The main features of the climate of the elevated districts of Southern Rhodesia resemble those of the climate of the uplands of Cape Colony, inasmuch as the summer is hot, with often pleasantly cool nights, the winter is dry and has often cold or frosty nights, and the bulk of the rainfall takes place in the summer months. The character of

the rainfall is, however, different; it does not fall only as thunderstorms of brief duration—the usual character of the Karroo rainfall; thunderstorms are certainly frequent in Rhodesia, but there is also a season of almost continuous rains, beginning in November or December and lasting until March. The summer heat is scarcely ever excessive, but the west of Rhodesia is hotter than the east, while the rains are heavier in the east than in the west.

Observations on the rainfall appear to have been taken at Hope Fountain, near Bulawayo, for a period of seven years, and I have here table A, the record published in the most recent report of the British South Africa Company.

More complete observations are now taken at Salisbury, Bulawayo, and elsewhere, as will be seen by tables B and C.

In Bulawayo the prevailing winds of the dry season are E., E.N.E., or E.S.E., and during the wet season W. or N. The official report says: “Two points seem to establish themselves more and more:—(a) Whilst the general direction of the wind is east, if the wind veers to the north or north-west, the air becomes oppressive, the barometer sinks, and one or two days afterwards the weather is disturbed, there is either a dust storm or cloudy sky, or rain or attempt to rain. (b) When the weather is boisterous the barometer rises.”

The returns for Bulawayo may be instructively compared with those of one year for Cape Town and East London, two coast towns situated to the west and east of Cape Colony respectively, and with those for Bloemfontein, the capital of the Orange Free State, which we may take as typical of the up-country districts in the south of South Africa.

It would be unfair to found definite conclusions on such a table as this; in course of time the accumulation of records will enable us to speak more decidedly, but as far as they go these returns bear out the impressions of both skilled and unskilled observers that, while the coast climate of South Africa cannot be compared with that of Rhodesia, the climate of the Orange Free State and the Karroo (Cape Colony uplands) resembles that of Rhodesia but has marked differences in degree of certain features. The rainfall of Rhodesia is heavier while it lasts than that of

TABLE A.—OBSERVATIONS AT HOPE FOUNTAIN (10 MILES SOUTH OF BULAWAYO).

	April.	May.	June.	July.	August.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March.
1889	0°00	0°00	0°11	0°43	0°07	0°04	0°28	9°78	7°77	11°44	1°28	0°21
1890	Missing											
1891	0°94	0°07	0°00	0°00	0°05	0°03	0°04	3°51	1°63	12°00	17°51	4°28
1892	4°79	0°00	0°00	0°01	0°00	0°00	1°60	2°05	1°66	13°10	6°00	0°03
1893	2°17	0°00	0°00	0°22	War					11°34	6°36	1°02
1894	0°53	0°00	0°00	0°00	0°20	0°00	0°92	1°64	2°86	7°29	10°83	1°61
1895	0°23	0°00	0°00	0°00	0°00	0°01	0°20	4°74	10°61	5°63	9°55	4°01
1896	—	—	—	—	—	—	—	1°85	4°72	3°46	3°63	—
1897	0°00	0°00	0°00	0°00	0°00	0°00	0°00	4°99	7°82	8°74	4°38	5°52
1898	—	—	0°63	—	—	—	—	—	—	7°75	0°98	4°69
Average ...	1°23	0°01	0°10	0°09	0°05	0°01	0°82	4°08	5°29	8°98	6°72	2°67

B.—OBSERVATIONS AT BULAWAYO FROM 1ST OCTOBER, 1897, TO 30TH SEPTEMBER, 1898.  
ALTITUDE 4,469 FEET. RECORDED BY THE REV. V. NICOT, S.J.

Month.	Dry Bulb.	Wet Bulb.	Maximum.	Minimum.	Mean Temperature.	Mean Range of Temperature.	Relative Humidity.	Mercurial Barometer.		Rainfall in inches.	Number of Rainy Days.	Number of Windy Days.*
								From	To			
October, 1897	83.9	67.0	93.3	64.9	79.1	28.4	45	25.700	25.800	0.23	3	3
November "	78.8	66.6	90.3	62.9	76.6	27.4	59	"	"	3.75	7	0
December "	69.9	64.4	77.7	60.0	70.0	15.4	79	"	"	7.23	14	4
January, 1898	71.3	65.5	81.2	61.9	71.5	19.3	79	"	"	8.30	20	0
February "	69.9	60.9	79.2	59.5	69.3	19.7	59	25.966	25.870	0.19	5	3
March "	73.0	63.7	82.9	60.5	71.7	22.4	59	25.652	25.860	2.15	10	1
April "	68.0	59.5	78.5	56.8	67.6	21.7	58	25.728	25.928	0.13	5	0
May "	63.2	52.9	74.2	50.0	63.0	24.2	49	25.734	25.892	0.19	2	0
June "	58.2	48.9	68.5	45.8	58.5	22.7	50	25.790	25.986	0.03	1	0
July "	58.4	46.2	69.7	43.4	56.7	26.3	38	25.742	26.240	0.00	0	0
August "	58.2	47.2	69.2	44.3	56.7	24.9	42	25.850	26.060	0.03	1	0
September "	70.9	54.7	81.6	54.3	67.9	27.3	30	25.700	25.908	0.71	2	0
Mean	68.6	58.1	78.9	55.6	67.4	23.3	53.9	25.724	25.919	22.94	70	11

\* For six months only.

Month	Thermometers.				Rainfall in inches.	Number of Rainy Days.	Mercurial Barometer.	Tempera- ture of Barometer.	Prevailing Winds.
	Black Bulb in Vacuo.	Wet Bulb.	Dry Bulb.	Maximum in Shade.	Minimum in Shade.				
October, 1897	Mean.	Mean.	Mean.	92.9	53.0	1.04	Mean.	Mean.	
November "	—	60.7	75.4	91.8	55.2	3.77	25.366	74.50	N.E.
December "	—	63.7	72.8	88.2	55.0	9.86	25.404	73.60	S.S.E. to N.N.W.
January, 1898	—	63.2	68.3	85.0	57.0	4.12	25.375	69.60	E.N.E. to N.N.W.
February "	—	63.9	66.6	82.0	52.0	4.28	25.359	69.00	S.E. to N.W.
March "	—	59.6	62.9	82.0	53.0	2.34	25.349	65.00	S.E. to N.N.E.
April "	—	60.9	63.7	83.5	42.0	1.76	25.355	66.90	Easterly.
May "	14.6	56.8	60.4	78.0	42.5	0.27	25.440	61.30	E. and S.E.
June "	139.0	51.6	55.6	75.0	37.0	0	25.513	57.70	Easterly.
July "	132.2	48.4	53.0	70.0	34.5	0	25.516	57.32	S.E. to N.E.
August "	127.7	44.9	51.9	80.0	35.0	0.21	25.552	58.35	Easterly.
September "	133.5	45.9	52.5	89.0	42.0	0.06	25.459	65.76	S.E. to E.
October "	140.8	51.9	62.5	83.4	46.5	27.71	25.426	65.35	E. to S.E.
Mean ...	—	55.9	62.1	83.4	46.5	84	25.426	65.35	

TABLE COMPARING THE TEMPERATURE AND THE RAINFALL OF CAPE TOWN, EAST LONDON (EAST), AND BLOEMFONTEIN,  
FOR ONE YEAR (1892), WITH THOSE OF BULAWAYO FOR THE YEAR ENDING 30TH SEPTEMBER, 1898.

Month.	Cape Town (Royal Observatory), Altitude, 40 feet.				East London (East), Altitude, 104 feet.				Bloemfontein, Altitude, 4,518 feet.				Bulawayo, Altitude, 4,469 feet.			
	Max. Temp.	Min. Temp.	Rain in inches.	Max. Temp.	Min. Temp.	Rain in inches.	Max. Temp.	Min. Temp.	Max. Temp.	Min. Temp.	Rain in inches.	Max. Temp.	Max. Temp.	Min. Temp.	Rain in inches.	Max. Temp.
October ...	70.5	52.2	1.08	70.7	56.9	4.40	80.7	47.8	80.7	47.8	2.89	93.3	93.3	64.9	0.23	93.3
November "	74.1	54.8	1.99	73.1	59.8	2.25	83.3	52.7	83.3	52.7	1.16	90.3	90.3	62.9	3.75	90.3
December "	78.0	57.7	3.02	76.3	62.5	3.08	86.7	56.0	86.7	56.0	2.01	77.7	77.7	62.3	7.23	77.7
January "	82.0	60.1	0.86	76.9	63.6	1.69	86.8	58.9	86.8	58.9	5.55	81.2	81.2	61.9	8.30	81.2
February "	81.0	59.6	0.16	77.4	64.7	5.35	85.5	58.7	85.5	58.7	2.94	79.2	79.2	59.5	0.19	79.2
March "	79.1	57.4	1.75	75.2	62.0	5.20	79.8	53.3	79.8	53.3	6.96	82.9	82.9	60.5	2.15	82.9
April "	71.8	53.8	2.11	73.9	58.7	2.17	74.7	45.9	74.7	45.9	1.65	78.5	78.5	56.8	0.13	78.5
May "	65.9	50.2	4.15	71.5	53.3	0.79	67.5	36.7	67.5	36.7	0.22	74.2	74.2	50.0	0.19	74.2
June "	63.3	48.2	11.41	71.8	50.6	0.41	64.1	29.2	64.1	29.2	0.74	68.5	68.5	45.8	0.03	68.5
July "	62.2	46.0	6.18	69.4	48.0	1.33	68.6	34.2	68.6	34.2	0.00	69.7	69.7	43.4	0.00	69.7
August "	63.2	40.8	5.70	69.4	50.8	2.80	76.0	42.2	76.0	42.2	1.29	81.6	81.6	44.3	0.03	81.6
September "	66.9	49.6	2.51	70.5	54.3	7.70	76.5	45.6	76.5	45.6	25.79	78.9	78.9	55.6	22.94	78.9
Mean ...	71.5	53.0	40.92	73.0	57.1	38.07	76.5	45.6	76.5	45.6	25.79	78.9	78.9	55.6	22.94	78.9

the Karroo, but there is a longer dry season ; Rhodesia, however, because of its springs, does not suffer in the dry season as the Karroo does. Then, again, the heat of the Rhodesian climate is, all the year round, greater than that of the Karroo, but in the Karroo the nights of winter are as a rule very much colder. Thus the table shows that the minimum temperature of the coldest month (July) was  $29.2^{\circ}$  in Bloemfontein, and only  $43.4^{\circ}$  in Bulawayo. Another important feature is that the daily range of temperature, always an important character in the temperature of elevated regions, is greater in the Karroo than in Rhodesia.

The winter climate of the uplands of Matabeleland has been well described in a few words by Colonel Baden Powell : "Bright sun always, breezy all day, thermometer  $70^{\circ}$ , with shade at mid-day, cool nights. In town (Bulawayo) dust is the only drawback to it all. We all live entirely in the open, and it is delightful." Those of us who have even only a limited acquaintance with South Africa will recognise how well the same writer's description of his vision, "lower half yellow, upper half blue," conveys the impression left on the mind by the "yellow veld of South Africa topped with the blue South African sky."

So far as observations have gone, it would appear that the original anticipations concerning the climate of Rhodesia were correct, and that it is well adapted for Europeans. The summer heat is no doubt considerable, but it is easily borne, owing, it is said, to the elevation of the country and the consequent rarefaction of the air ; and it is important to note in this connection that not a single case of sunstroke is recorded as having been treated in the returns of the Bulawayo Hospital, which we have quoted.

The rainfall so far as can be judged at present, appears to vary considerably in different years ; thus, while the table here recording the rainfall at Salisbury for the year ending September 30, 1898, shows a total fall of 27.71 inches, in the season ending April, 1891, 53 inches fell at the same place.

*Diseases.*—The diseases prevalent in Rhodesia may be best studied by reference to the reports of the different hospitals. The recent description by the soldier's poet of the diseases tormenting poor Tommy Atkins in South Africa covers those

found in Rhodesia. "Dysentery that milks the heart out of a man and shames him before his kind; typhoid of the loaded breath and the silly eye, incontinent and consuming; pneumonia that stabs in the back and drives the poor soul suffocating and bewildered through all the hells of delirium." Happily, however, "rheumatism, which is the seven devils of toothache in the marrow of your bones," is not one of the plagues of Rhodesia, while typhoid, which is laying Tommy Atkins low so extensively, is greatly excelled in frequency in Rhodesia by malarial fever. Happily this is not one of Tommy's plagues on service at present, and so we lose another of Mr. Kipling's epigrammatic descriptions; but we may yet have it, if he by chance accompany the Rhodesian Field Force.

The following table shows a summary of the diseases treated in the hospital during the two years ending June 30, 1899:—

TABLE E.

	July, 1897, to June, 1898			July, 1898, to June, 1899.		
	Admitted.	Died.	Death rate per cent.	Admitted.	Died.	Death rate per cent.
<b>A.—Whites.</b>						
1. Malarial Fever:—						
(a) Ordinary ...	693	16	2·85	461	14	3·6
(b) Blackwater ...	8	3		11	3	
2. Dysentery ...	71	11	15·49	48	3	6·25
3. Typhoid ...	23	4	17·39	10	1	10·0
4. Pneumonia ...	17	3	17·41	28	7	25·0
5. Other diseases ...	342	9	2·63	249	10	4·01
6. Accidents ...	48	2	4·16	58	3	5·17
7. Poisonings ...	2	—	—	—	—	—
<b>B.—Blacks.</b>						
1. Malarial fever ...	133	17	12·78	133	14	10·5
2. Dysentery ...	45	19	42·2	37	18	48·64
3. Typhoid fever ...	—	—	—	1	1	100·0
4. Pneumonia ...	27	11	40·74	54	13	24·07
5. Other diseases ...	128	21	16·4	81	8	9·87
6. Accidents ...	78	2	2·56	67	9	13·4
7. Poisonings ...	4	1	25·0	—	—	—

The returns of the Memorial Hospital of Bulawayo for the year ending June 30, 1899, are more complete than those of any other Rhodesian hospital, and may be taken as illustrative. They have been prepared by Dr. F. Arnold, the resident medical officer. During the year, 865 white and 373 black patients were admitted, making a total of 1,238. The death-rate amongst



the whites was 4·73, and amongst the blacks 16·6; the average daily number of in-patients was 57, and of these 37 were white and 20 black. Of the 865 white patients 560 were natives of Great Britain, 173 of British Colonies (including 125 from Cape Colony), 128 were from foreign countries (including 8 from the Transvaal and 3 from the Orange Free State), and the birth-places of 4 were not known; 561 of the white patients were between the ages of 20 and 35, and only 29 out of the 865 were women.

It will be seen from the above that the four diseases alluded to are prevalent in Bulawayo, and of these malarial fever is greatly in advance of the others in frequency amongst both whites and blacks. It is affirmed that only a small proportion of cases of malarial fever contract the disease in Bulawayo; many of the patients acquire the disease in the fever-stricken Portuguese territories, but undoubtedly the majority acquire it in the outlying and newer districts of Rhodesia, and are brought into Bulawayo for treatment.

The following return is taken from the report of the principal medical officer of the British South Africa Company:—

Cases of malarial fever treated in hospitals from April 1, 1897, to September 30, 1898.

TABLE F.

Hospitals.	Cases.	Deaths.	Per cent.
Salisbury...	980	7	·71
Bulawayo { Whites	890	24	2·68
{ Blacks	158	20	12·6
Umtali ...	154	12	7·7
Gwelo ...	413	13	3·14
Victoria ...	255	1	·3
	2,880	77	2·67

Cases of blackwater fever are not frequent; they are met with chiefly towards the east of Rhodesia, near to the Portuguese border. The Memorial Hospital is the only one the returns of which distinguish between Europeans and natives; this is to be regretted, as this aspect of the disease is of interest. It is remarkable that the death rate of natives treated for malarial fever in the Memorial Hospital is greatly in excess of that of the

TABLE FI.

Bulawayo Hospital.	Mean Temperature of Air.	Rainfall in Inches.	Number of Rainy Days.	Relative Humidity.	Malarial Fever.			
					Actual Cases.		Per cent.	
					Whites.	Blacks.	Whites.	Blacks.
July	Degrees. 50·7	·0	0	40	38	9	55·0	30·0
August	56·7	·03	1	44	25	3	42·37	11·1
September	67·9	·71	2	35	14	3	28·0	21·4
October	73·2	·16	5	35	14	3	22·58	8·1
November	73·0	4·11	17	54	24	10	44·4	29·4
December	72·5	6·23	8	49	16	3	40·0	12·0
January	74·5	2·25	9	44	16	8	37·2	27·6
February	69·2	4·40	19	76	40	10	59·7	43·4
March	70·9	1·82	5	59	74	22	66·06	53·6
April	66·7	1·07	11	69	71	23	68·9	58·9
May	58·7	·15	3	60	85	22	74·5	55·0
June	55·7	·11	3	—	55	16	59·78	45·7

Europeans similarly treated, but the real bearing of this fact cannot be ascertained without knowing whether the blacks were natives of Rhodesia, and contracted the disease in Rhodesia, or were natives of parts in which malarial fever was not endemic. The table given above, prepared by Dr. F. Arnold, is interesting, as showing the relation of the weather to malarial fever during one year.

It appears from this table, and from other records, that malarial fever is most prevalent in Southern Rhodesia towards the end of the rainy season, which in that country is in the summer; in the colder dry winter, there are comparatively few cases.

The part played by the mosquito in the production of the malarial fever of Rhodesia has yet to be shown. I have as yet been unable to obtain definite information as to the presence of anopheles in that country; Dr. Patrick Manson kindly informs me that he has received specimens of that insect infected with malaria from British Central Africa, and he has little doubt that it will also be found in Rhodesia. In all probability that mosquito does exist in the low levels of Rhodesia, especially near to the Portuguese territories, but it is not at all certain that it flourishes in the elevated districts where malarial fever is undoubtedly also endemic to a certain extent. On the other hand, Dr. Owen, of Enkeldoorn, one of the chief agricultural districts of Mashonaland, connects the malarial fever of Rhodesia with the "alternate spells of heavy rains and intense dry heat, the rapid growth of rank vegetation quickly dried up and withered by the sun," and the conversion of the whole into a mass of decaying matter by heavy rain; he also has observed, as has been frequently done before, that the overturning of virgin soil in farming produces a severe form of malarial fever in Rhodesia. He definitely states that he has found the malarial parasite in the soil and in the grass, but never above a height of four feet from the ground, and has observed that it is at its worst an hour before and an hour after sunrise.

The principal medical officer of Rhodesia reports that the large number of cases of malarial fever in Bulawayo during the year ending March 31, 1898, was due to the improper housing

of the company's police, and also to the fact that they were carrying on operations during the rainy season ; they therefore formed the bulk of the white patients. The defects have now been remedied, and the result has been an improvement in the health of the police, and a large decline in the cases of malarial fever treated in hospital. Although that disease is still responsible for the largest amount of sickness, the principal medical officer is able to assert that it is "rapidly becoming less frequent, if not unknown, *in the towns and centres*, and also altered to a much milder type."

Dysentery is next in importance to malarial fever amongst the diseases of Southern Rhodesia, but, unlike malarial fever, appears to be on the increase. The natives suffer severely from it, and their death rate is high. It is most prevalent in the late spring and early summer months.

The following is a table of dysentery cases treated in hospitals from April 1, 1897, to September 30, 1898 :—

TABLE G.

Hospitals.	Cases.	Deaths.	Per cent.
Salisbury...	52	4	7·63
Bulawayo { Europeans ...	110	12	19·0
{ Natives ...	63	25	39·6
Umtali ...	17	2	11·76
Gwelo ...	22	2	9·9
Victoria ...	25	5	20·0
	289	50	17·3

In regard to typhoid fever it is satisfactory to observe that the disease is comparatively infrequent in Rhodesia, and in this respect the towns are greatly superior to those of Cape Colony, in most of which typhoid fever is rampant, especially in the small up-country townships. The comparative freedom of Rhodesia from typhoid fever is probably due to the youth of the country, but credit must be given to the authorities for their efforts to stamp out the disease when it does occur. In the eighteen months ending September 30, 1898, there were thirty-two cases of typhoid fever in the whole of Rhodesia, and twenty-nine of these were in Bulawayo. Small-pox and Kaffir-pox have not given much trouble, but the authorities are vigilant, owing to the frequent prevalence of small-pox in the Transvaal.

There would appear to be no cases of tuberculosis of the lungs, except amongst the few who have resorted to the country for the benefit of their health. The natives do not appear to fall victims to this disease in any number, and it is probable that the disease was quite unknown amongst them until introduced by Europeans, just as it was in very many other districts of South Africa. We read in the report of the district surgeon for Bulawayo for the year ending September 30, 1898, that the Act for the Notification of Zymotic Diseases is not in force. Rhodesia appears to be remarkably free so far from the prevalence of pneumonia and other diseases of the lungs, and in this respect also is superior to other parts of South Africa; but the medical officer points out that pneumonia is on the increase, especially among the natives, and the experience of all South African towns shows that pneumonia increases in frequency in proportion to the increase of the towns.

Venereal diseases are common amongst the natives, and are said to have been known to them for many generations. One case of beri-beri occurred in Victoria in 1898; this appears to be the only one recorded. The cases of leprosy are also very few, and the same may be said of scurvy, two diseases confined to the native population. The registration of deaths and their causes has not been made compulsory. It must be remembered that it is difficult to work a system of notification or of registration amidst a scattered and thin population; even in Cape Colony it is only about six years since compulsory registration was introduced. As towns develop and means of communication are opened up, no doubt a suitable scheme for registration will be made law in Rhodesia.

There is now every reason for believing that the country is full of mineral wealth and that great mining industries will spring up; but in any case the nature of the soil, the facts that there is an ample water supply and that European fruits, vegetables, and cereals flourish when introduced, and the general favourable nature of the climate, mark out the more elevated regions of Southern Rhodesia as eminently suitable for British colonists of the right stamp. But, owing in great part to the prevalence of malarial fever, the lower levels of the country do not at present

offer any attractions ; and anything under about 3,000 feet is low level and malarial in Southern Rhodesia.

It cannot be said that any particular districts of Southern Rhodesia have as yet been specially marked out as health resorts for its inhabitants ; but we may mention that "two hot mineral springs" are said to exist in the neighbourhood of Melsetter, in the eastern part of the country.

The country has of course not as yet been in a condition to attract invalids ; nor does it seem likely that it will ever show features which will make it more suitable than any other inland elevated district for the residence of persons afflicted with tuberculosis of the lungs. I have, however, seen more than one case of early phthisis to all appearances cured after a trek with a bullock waggon into Rhodesia from Mafeking before the days of the railway ; the same result has been seen for ages from active work in the open air of a healthy country, and is not to be attributed to any special character of the climate. The therapeutics of the Rhodesian climate may be best summed up in words addressed to me a few years ago by Dr. Jameson : "Only persons in robust health should come to this country."

I have selected a number of slides to show you which, although not directly designed for a paper on the climate of the country, may yet illustrate some of the features to which I have referred and may prove of interest in other ways.

Dr. Laing Gordon, in exhibiting a map of Rhodesia upon the screen, drew attention to the route which the Rhodesian Field Force was said to be following from Marandella's to Tuli through a malarious country, and observed that the march from Salisbury to Bulawayo would be shorter and healthier, and would be quicker, inasmuch as the railway would be made use of. It was to be hoped the latter route would turn out to be the one adopted. The series of slides illustrated the granite kopjes and the country lying on the stratified rocks, and the well-watered nature of the land ; a succession of very beautiful pictures of the Victoria Falls was shown, where the Zambesi widened out to about 2,000 yards, falls into a chasm 400 feet deep and only 100 yards wide, whence it rushes out in a torrent through a channel 70 yards wide between cliffs 400 feet high.

Views of more general interest were also shown, and Dr. Laing Gordon gave a brief *résumé* of the archæology of the country, describing the Great Zimbabwe ruins, and traced the history of the country. He also showed views of Salisbury and Bulawayo, including a recent panoramic view of the latter town.

The PRESIDENT: I am sure we are all very much indebted to Dr. Gordon for this very interesting account of Rhodesia, and the illustrations with which he has accompanied it. The subject is too extensive to enter upon at this late hour. There is, however, one point in his account of Rhodesia which came home to me very much in reference to another far off land with which I am well acquainted, and in which I have lived for many years. I refer to China—Hong Kong. Dr. Gordon spoke of the existence of malarial fever to a great extent in Rhodesia, and referred to the fact that it was more prevalent after virgin soil had been turned up. Hong Kong is built upon a granite rock, and the only soil there is decayed granite, and very fertile it is. But we found that whenever fresh roads had to be made, or fresh excavations for the purpose of building, we were sure to have an outbreak of malarial fever, arising not from any moisture or deposit of water, or decayed vegetable matter that was visible, but from the mere upturning of soil which had never been turned up before. It struck me as a curious coincidence that, as in Rhodesia, the parts occupied for some time became very healthy.

I am sure we are all very much indebted to Dr. Gordon for his great care and the most interesting account he has given us. We shall be very happy to hear any Fellows of the Society, or any visitors who may be present and wish to say anything on the subject.

Dr. HILLIER: Mr. Chairman and Gentlemen, I will avail myself of your kind invitation to visitors, and, if I may, offer a few observations on the very interesting paper Dr. Gordon has given you this evening. The paper has been of extreme interest to me, inasmuch as—although I hesitate to say it, after the character that has been given to the profession there—I was for thirteen years in practice in South Africa. And, although I

have never been in Rhodesia, I was intimately associated, and was, in fact, in partnership with Dr. Jameson at the time when he first began to visit that country, and also at the time the Charter was obtained. I therefore, saw a great deal of the early pioneers of Rhodesia, and had many of them as patients, and I have for many years had a close correspondence with several of the colonists in that country.

What Dr. Gordon has told us about malaria is extremely interesting. Typhoid, it appears, is not a common disease in Rhodesia, and I think one may say at once, in reference to the whole incidence of typhoid in South Africa, that it is not in any way due to the climate. The climate of the country, at any rate south of Rhodesia, is an absolutely healthy one. "Nature is almost perfect, and man alone is vile." He is responsible for such diseases as typhoid, at any rate. But when we come to enter Rhodesia and the low country on the coast in the same latitude, we no doubt do come in contact with a disease which is distinctly climatic, and that disease is malaria. Now, we have recently had given us, in this country and in Italy, the researches of distinguished men with reference to the etiology of this disease; and I think we all of us cordially recognise that there is no more brilliant piece of original research work at the present day than that which is connected with the investigation of the malarial parasite and its history. But, sir, I confess that there are certain facts about the occurrence of malaria in South Africa, and particularly in Rhodesia, which have caused me considerable speculation. The theory, or at any rate one of the doctrines, which is held by the school of which Dr. Ross and Dr. Patrick Manson are such distinguished exponents, is, I believe, that malaria is conveyed by a species of mosquito, or by certain species of mosquito, from man to man; and, as far as I understand it, they imply that the malaria parasite is obtained in the first instance by the mosquito, the anopheles or other species, from man, and from man only, and is thus conveyed to other men, the disease being thus set and kept going. Now, the difficulty which occurs to me in relation to that doctrine is this: As Dr. Gordon has told you, Rhodesia, with an area of something like 150,000 square miles, is an extremely



thinly populated country ; there are to-day only 13,000 white men, and it is estimated that the blacks do not exceed 200,000. It also follows that many districts of Rhodesia are practically uninhabited ; and some of these uninhabited districts are the low-lying fever-stricken districts, where malaria is most prevalent and most virulent. If the mosquito be dependent upon man for his original stock of the malaria parasite, what puzzles me is to know where he gets it ; because it is certain that small parties of hunters and explorers go into these low districts and, within a few days, are smitten down with malaria, in a country where practically there are no human inhabitants whatever. It therefore raises in my mind this question : I think we must all admit that it is positively established that the mosquito carries the parasite—about that there can be no question ; but where that is obtained from—whether it can be held that it is obtained from man, and man only—is a very moot point. I have thought that the mosquito might obtain it from some of the highest vertebrates among the big game ; or whether, further, there may not be some other means for the conveyance of this disease than the mosquito. These questions are brought home to one very much by experience of this disease in South Africa, and I am sure you will be interested to hear what Dr. Gordon may have to say on that subject. I would like to express my indebtedness for the very able paper.

I will, if I may, add one point, which is practical, and one of importance. Dr. Gordon has raised the question of the wisdom of the Rhodesian field force, landed in that country marching from Marandellas to Tuli, even in what is supposed to be the winter. I entirely agree with him ; I think it is a very doubtful route indeed for that force to take, and I hope that even yet the military authorities may be induced to adopt the other and higher route. If they do not, from what I know of the country—although my information is principally second-hand—I think there will be a considerable amount of malaria and horse-sickness.

Dr. Gordon used a term which, to me is one I have always regarded as scarcely permissible. He spoke of "Kaffir-pox." What is called Kaffir-pox in South Africa is chicken-pox. I

have seen a great deal of it, and I at one time believed it to be a disease peculiar to the Kaffir ; but after careful study I came to the conclusion that it was no more nor less than European chicken-pox.

Dr. LEONARD WILLIAMS : It is now very late, and I only rise as one more Fellow to thank Dr. Gordon for his very instructive address and his very charming pictures ; and also to ask him to supply an omission which I thought there was in the first part of the paper. He spoke about the rainfall, and we had to draw our own conclusions with regard to sunshine. He omitted to say anything about the humidity of the different parts of Rhodesia. I think, from the point of view of climatic treatment, the question of humidity is a very important one. I gathered from some of the pictures showing luxuriant vegetation that in certain portions of Southern Rhodesia the humidity is high. Whether it is so all over, or whether it is so anywhere, we were not definitely told.

Dr. LAING GORDON, in reply, said : I would like first to refer to the last question, namely, with regard to humidity. I did not enter into all the details of the tables which I have here, and which, Dr. Sunderland says, will be reproduced in the Journal of this Society. Perhaps you will prefer to see them there than for me to detail them now.

With regard to the remarks made by Dr. Hillier, I think they are a great deal more interesting than anything I have said to-night, because Dr. Hillier speaks from a much larger experience of South Africa than I ever had ; and I am glad my remarks have given us the opportunity of hearing Dr. Hillier's views with regard to malaria. I must say, from my small experience, compared with his, that I endorse every word he says on the subject ; but I cannot give him any views of my own, because I should not like to give my opinion upon the views of such distinguished men as Dr. Patrick Manson and Dr. Ross. At the same time, I think they have a great many facts to encounter which at present seem to be stumbling blocks, such as those to which Dr. Hillier has referred. Another interesting fact is that mentioned by our Chairman, Dr. Murray, namely, the prevalence of malaria when virgin soil has been turned up. There is another

interesting fact, which perhaps Dr. Hillier can bear me out in, namely, that in going to and coming from the Cape, as the ships pass along the West Coast of Africa you frequently find men bowled over by malarial fever, although several miles from the coast. Where the mosquito is in such a case I do not know; I have never seen it.

With regard to Kaffir-pox in South Africa, I saw a great deal of that, and I thought it was chicken-pox. As medical authorities in South Africa called it Kaffir-pox I called it so out of deference to them. I am glad to hear a leading authority in South Africa say it was chicken-pox.

I am sorry Dr. Hillier thought I tarred all members of the profession in South Africa with one brush. Of course he knows I did not. Whilst I was in South Africa I made many very good, and I hope lifelong, friends among the medical profession there.

The PRESIDENT: Before separating, I think we ought to propose a vote of thanks to Dr. Gordon for bringing the lantern slides and exhibiting them to us; they have added very much to the interest of his paper.

Dr. SUNDERLAND: I will second that with great pleasure.

Dr. SYMES THOMPSON writes in reference to this subject, that since the year 1872, when he brought before the profession the value of the South African climate, especially in cases of chest disease (*Transactions of Royal Medical and Chirurgical Society*, vol. lvi., 1873), he had increasingly realised the immense value of the South African highland. Although his personal knowledge was limited to the Karoo, he had, in a paper read before the R. Colonial Institute in 1889, pointed out that to the north of the Zambesi there were high, cool plateaux, endowed with a temperate climate and temperate flora, well watered, richly wooded, and offering suitable localities for European settlers.

He was glad to find that recent observations in Rhodesia confirmed this opinion, the Bishop of Mashonaland (Dr. Gaul) had also written to Dr. Symes Thompson on the same subject.

In Rhodesia the rainfall was more distributed than in the Karoo, where it was limited to summer thunderstorms, the vegetation was beautiful, quite unlike that of the barren Karoo. The presence of malaria however, in many parts was a serious

barrier, a very bad case of malarial fever from Bulawayo had been recently under his care. He expressed the hope, however, that under the skilled guidance of Dr. V. Mauan, this scourge would be met and overcome. When this is the case the development of our African Empire will proceed by leaps and bounds.

Dr. Gordon's paper bringing home, as it does, to the profession and the public, the facts regarding the climate of Rhodesia could not fail to prove of great and lasting benefit.

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## THE HILL STATIONS OF INDIA AS HEALTH RESORTS.<sup>1</sup>

BY SIR JOSEPH FAYRER, BART.

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I THINK I can hardly better fulfil the mandate of your esteemed President, Dr. Ivor Murray, to give an inaugural address to this Society, than by inviting your attention to those mountain regions which play so important a part in the social and physical economy and well-being of our countrymen in India and which, under the designation of Hill Stations, are familiar, by name at least, to all who have any knowledge of the conditions of life in that country.

I propose to consider them not merely in reference to the treatment of disease and convalescence, but also as resorts in which the European may preserve his health and avoid the physical deterioration which inevitably results from protracted residence in the plains, and where, indeed, it seems even possible that he may take root, thrive and propagate his race, a subject of ever widening interest to our rapidly increasing population, and for which there are grounds for belief that the prospects of success are not altogether unfavourable, though so far, no conclusive proof of it is forthcoming. Past history shows, however, that colonisation by the unmixed European race in the *plains* of India is impracticable. In the very rare instances in which the

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<sup>1</sup> Read at a meeting of the British Balneological and Climatological Society, May 30, 1900.

third generation has been reached it had evidently attained its utmost desirable limits, whilst of the Portuguese who preceded us, no descendant, unalloyed by native blood, can be said to exist.

Before describing the Hill Stations, however, let me recall to you briefly some of the physiographical characters of the great peninsula in which they are situated, and the climatic and physical attributes which so largely influence the conditions of European life in India.

The geographical position of British India, part within the torrid, part within the temperate zone, with the Bay of Bengal on the east and the Arabian Sea on the west, its physical characters, comprising lofty mountain ranges rising in the north to the abodes of eternal snow, elevated plateaux and deserts, noble rivers and estuaries, vast plains formed by their basins and deltas, extensive forest tracts, jungles and swamps, invest it with peculiar interest from climatic and hygienic points of view, especially as regards the alien race who now control its destinies, and to whom its future development and welfare seem to be committed.

India proper is a vast triangle with its apex at Cape Comorin and its base in the Himalayas, its extreme length 1,900 miles, breadth at the base, about 2,000 miles. It is situated between the 66th and 104th meridians of East longitude, and the 8th and 35th parallels of North latitude. It has over a million and a quarter square miles of surface area, contained within a coast line of about 4,000 miles and a land boundary of over 5,000 miles. The natural divisions are :—

- (1) The Himalayan and Sub-Himalayan region.
- (2) The Indo Gangetic basin and deltas.
- (3) The peninsula proper, formed by the elevated plateau of the Deccan, bounded on each side by the Ghauts and the littorals between them and the ocean.

The Himalayan range extends for about 1,750 miles, crescentically, N.W. and S.E., with a breadth of from 150 to 250 miles. Their mean height is from 16,000 to 20,000 feet, and there are several high points, amongst them Kinchinjunga 28,176 feet, and Everest 29,002 feet, the highest measured peak in the world.

The sub-Himalayan region consists of ranges separated by broad valleys, bounded in part on the south by the Siwalik range and the Terai. It is in the lower ridges of this range of hills, at elevations up to 7,000 feet, that many of the Hill Stations lie.

The Indo-Gangetic plain or Hindostan proper, which separates the Himalayas from Southern India, forms the richest and most populous part of the empire. The great rivers, Indus, Ganges and Brahmaputra, water this region and contribute to its formation.

The third division, tropical or peninsular India, is bounded on the north by the Vinghyan system of hills, consisting of various ranges from 1,500 to 4,000 feet, which extend for nearly 800 miles from east to west and include also the Aravalli, Kaimoor, Satpura and other ranges. The Eastern Ghauts form rather a descent from the plateau to the littoral than a distinct mountain range. They extend along part of the east coast with an average elevation of 1,500 feet, and occasional high peaks, with broad tracts of level ground between them and the ocean. The Western Ghauts extend from near Tapti river on the west down the coast to Cape Comorin, with an average height of about 3,000 feet, ascending to between 4,000 and 5,000 feet at Mahableshwar. Between these three ranges the peninsula of India is raised into the plateau of the Deccan. It has an elevation of from 1,000 to 3,000 feet, a region of open valleys and easy slopes with isolated peaks here and there and ranges of hills, of which the most important are the Nilgiris, whose highest point is Dodabetta, 8,760 feet.

There are two great slopes of drainage, into the Bay of Bengal on the one side and the Arabian Sea on the other. The Bay of Bengal receives the Ganges, Brahmaputra, Mahanaddi, Godavery, Cauvery, Kistna and others, whilst the Arabian Sea receives the Indus, Nerbudda, Tapti, and some others.

The above geographical and physical characters involve many varieties of climate, and between Northern and Tropical India, according to latitude, elevation and other physical attributes, every degree of difference in temperature, humidity or dryness is found.

There are three distinct seasons in India, the hot, the rainy and the cold, which vary in time of setting in and in duration

according to latitude, elevation and other physical conditions. Approximately the cold season extends from November to March, the hot from March to June or July, and the rainy from that to October, these seasons being greatly influenced by the monsoons.

A few words on the monsoons, which do so much to determine the conditions of climate and health, as well as the production of food. They are the result of the northern flow of currents of air bearing moisture from the ocean, as the S.W. monsoon, and again their reflux, as the N.E. monsoon, which also brings rain to Southern India. In both cases they are more or less deflected or modified by the physical conditions of the country over which they pass. The S.W. monsoon is the great carrier of rain to the whole of India. Saturated with moisture, it deposits it in the form of heavy rain upon the Western Ghats where it first impinges and where the greatest amount falls; or passing over extensive tracts of desert land, it deposits very little rain until further north, when, on impact with the Himalayas a large fall takes place. For example, at Mahabaleshwar in the Western Ghats, 300 inches of rain fall in the few months of the rainy season; and again, on the N.E. frontier, in that prolongation of the Himalayas into the Aracan Yomas, on the plateau of the Khasia and Jynta hills, at an elevation of 4,000 to 6,000 feet, at Cherra Poonji (4,200 feet) the large amount of 600 inches falls, the largest rainfall known in the world; whilst at the corresponding latitude on the west, in the desert of Sind and Rajputana there is almost no rain, not that the air is not charged with moisture, but that the conditions of condensation do not there exist.

In such a variety of climates and different elevations, with great swamps and deltas on the one hand, and arid, dry sandy plains on the other, with an almost universal presence of malaria and great solar heat, all those conditions exist which give rise to the well-known forms of tropical disease, render the plains of India unsuitable to be the permanent home of the European, and emphasise the expediency of seeking for and utilising sites in the more elevated regions where Europeans may find immunity from them. Many such nations have now become health

resorts of which the advantages are very great, not only in preserving the health of those yet unaffected by the climate of the plains, but for invalids who, without being the subjects of organic disease, have suffered from the wearing effects of climate and work, and in some cases for those convalescent from certain tropical diseases, thus obviating the necessity for long and expensive voyages and prolonged absence from duties.

In considering the question of Hill Stations it is to be remembered that the welfare of upwards of 100,000 Europeans is concerned. A very large number of these are destined to spend a great part but not the whole of their lives in India, and it is of the utmost importance for the preservation of their health and vigour to utilise these localities in which this object may be to so great an extent attained. The search for and adoption of others, and the endeavour to improve by sanitation or by any other means the condition of those now existing, have always seemed to me worthy of the attention and consideration of all interested in the welfare of the community.

In some of the Hill Stations, more especially those to the south, at elevations between 4,000 and 7,000 feet, a certain number of Europeans have settled, but sufficient time has not yet elapsed to show how far this commencement of colonisation may develop and ultimately succeed. For those who have assured means of living, and who are not solely dependent upon their professions or labours, it seems probable enough that the results may be satisfactory. It also seems possible that the various industries connected with tea, coffee, and cinchona planting and minerals may afford the means of subsistence, notwithstanding the competition of native labour, and so in time, European communities of considerable extent may arise and flourish, producing men fit to carry on work in the plains, returning at intervals to their homes in the more elevated regions. But this remains to be proved.

The great proportion, however, of Europeans who live in India and conduct the commerce, government and other public affairs, would still have to be recruited from Europe, and I do not say that the necessity for occasional return to Europe can ever be entirely obviated, for cases must occur in which this



will be necessary, not only for recovery from disease or for the re-establishment of perfect health, but for moral and social reasons.

Still, I am under the impression that these Hill Stations have never been fully taken advantage of, and it is satisfactory to know that they are capable of considerable extension. And I may here express a hope that those who are in a position to do so will endeavour to bring about the realisation of that which would certainly be of benefit to our race in India. I can hardly, indeed, imagine a more profitable subject for the consideration of a Society such as this, whose opinion would carry so much weight.

One obstacle to the progress and success of such colonisation would be found in the limited area of the elevated table-lands and their intersection by deep valleys. There are regions, however, that are more promising in this respect, *e.g.*, the Khasia and Jyntra Hills between Bengal and Assam, where the elevated plateaux are broader and more extensive, with undulating ground, at a height that would be favourable to the European constitution. The late Inspector General Maclelland, an observer of great scientific acumen, in discussing this subject, writes of these hills : "The elevations, more about the centre of the table-lands, are broad and extensive downs, with favourable soil and plentiful supplies of water, with coal and other resources at hand suitable for the enterprise of Europeans, which seem to leave nothing to be wished for in regard to this locality but greater facilities of communication in order to render it all to be desired." In this I quite concur, having known this part of the country and being much struck with the general character of that between Cherra and Shillong, and its aptitude for this purpose. The greater facilities for communication in these days by rail and steam are gradually diminishing the objections at that time considered to be inseparable from its remote position.

He says of another region : "Proceeding from Hazaribagh further to the west, we have a range of high country parallel to the Ganges, presenting fine table-lands at Sohagpore, the elevation of which has been variously stated at from 3,000 to 5,000 feet." Again, in the district of Ramghur in the Saugor and Nerbudda territories, are high table-lands, which had then been

imperfectly explored, but the elevations were known to be from 3,000 to 5,000 feet. "Here during the month of May the climate is truly delightful. Everything around is fresh and green ; the air is elastic and buoyant, with dew falling every night. Fifteen or twenty days seldom pass, even in the dry season, without showers." "Again, in the Mahadeo Hills, is the table-land of Pachmahri, in the Nagpore district, elevated 3,500 feet. The soil is light and sandy." Of this it was written in 1839 : "In the month of May the climate has been known to be such as to suit the most delicate European constitution, while the cold season is intensely cold and invigorating." This place has now become a station. The same writer remarks : "A bracing climate, mineral treasures of unexplored value, rich and unappropriated lands, abundance of moisture for all agricultural purposes, beautiful scenery, and a vast variety of products of almost every description, are to be found in these table-lands, to which Providence has been so lavish in its gifts, but which man has not yet been taught to appreciate."

Although much has been done since Dr. Maclelland wrote, there is good reason to believe that in the vast mountain ranges and table-lands of India, the physical and climatic conditions necessary for the preservation of health, and perhaps even for the permanent colonisation of the European will be found to exist to a much greater extent than has hitherto been supposed. For example, the late Colonel Warburton, who was superintendent of the Khyber, has recently pointed out Tor Sapper, in the Kyber district, north of Landi Kotal, and thirty-two miles west of Peshwar, at an altitude of from 5,300 to 5,600 feet, capable of accommodating 1,500 soldiers, and also other elevated regions in the same district with equal advantages, which have all the conditions favourable to European health, and which he strongly recommends.

Considering, however, how little was known of the hill climates of India half a century ago, it is interesting to note the number of instances in which they are now resorted to, and to learn what service they have rendered both to the civil and military population. Since the late Sir Ranald Martin urged the attention of Government to the matter and pointed out the importance of

locating the European troops as much as possible in elevated regions, the number of hill sites at which the British army is stationed has greatly increased, and their vital statistics contrast favourably with those of India, generally the death rates being respectively about 14 and 23 per 1,000 in 1897, an unusually sickly year, the latest officially reported. According to the last report of the Sanitary Commissioner with the Government of India, of the 68,000 European soldiers now in India there are 3,000 in convalescent depôts and hill sanatoria, and 7,000 are stationed in the hills. I am inclined to think that this number might be increased. The facilities of communication are now so much greater than they were, say at the time of the Mutiny, that there would be little difficulty in getting at them in any sudden emergency.

Time does not permit me to do more than to briefly describe a few of the typical Hill Stations of the Himalayas, of the Ghauts and Vindhyan ranges, and of those more southern regions where the two systems of the Ghauts unite, forming the great mass of the Nilgiri hills, with a few concluding general remarks.

The chief Hill Stations of popular resorts in the extra tropical districts, *i.e.*, the Himalayas, are Dalhousie, Dahrmsala, Marri, Abbottabad, Thandiani, Simla, Missouri, Landour, Ranishet, Naini Tal, Almorah Darjeeling, Cherra Punji, Shillong, at heights of from 4,000 to 7,000 feet ; in the Nilgiris, Utacamand, Conoor, Wellington, Kotagherri ; Pachmarhi in the Central Provinces ; Mount Abu in Southern Rajputana, in the Aravallis ; Mahableshwar, Matheran and Rhandalla, in the Western Ghauts near Bombay. There are several others, but even of those mentioned I can only describe a few, and shall take as sufficiently illustrative, of the extra tropical, Darjeeling, Naini Tal, Simla and Mount Abu ; of the tropical, Mahableshwar, Matheran and the Nilgiris, for what is said of those applies, to a great extent, to the others.

The table-land of *Mahableshwar*, latitude  $17^{\circ} 58' \text{ N.}$ , longitude  $73^{\circ} 42' \text{ E.}$ , in the Western Ghauts, about 290 miles *via* Poonah, from Bombay, is of considerable extent. Its mean elevation is 4,500 feet above the sea, it is rugged and undulating. It varies from eight to fifteen miles in breadth and is seventeen miles from north-east to south-west. The station occupies the north-westerly

region of this table-land, having a south-west aspect, and is densely wooded ; there are excellent roads and drives. It is composed of basalt, trap and laterite. The mean annual temperature is 66°, daily range 8°, maximum of summer 89°, ordinary limit of winter cold 40°. The rainfall here, as I have already pointed out, is very great, the average being 229 inches, though frequently more ; but the natural drainage rapidly carries off this surplus water. The drinking water is good, the vegetation luxuriant. The head quarters of the Government of Bombay are established in this station, which is naturally the great hill resort from Bombay, as well as from many other parts of India. The elevation and position of this station afford a delightful climate. Malarial fevers do not occur and cholera is said never to have originated here. The season extends from March to June, and the greatest heat is in March and April, when the thermometer may rise to nearly 90°, but the nights are almost always cool and refreshing. Winds are variable, sometimes from the east, but there is a daily sea breeze which goes on blowing till the monsoon sets in. Thunderstorms are frequent after April, and in May the atmosphere becomes moister by day while mist and cloud envelop the hill by night and in the early morning. Early in June the monsoon bursts and the rain falls in deluges, during which time the mean temperature is about 63°. In September the monsoon ceases, and by October the weather has become settled. The change from the heat of the plains now affords great relief ; in November the air becomes cooler and drier, weather fine, mean temperature 62° ; the greatest cold only produces slight hoar frost. The days are mild and genial, the atmosphere bracing and elastic, and the nights are cool. The periods both before and after the monsoon are those at which the place is desirable as a residence. The scenery, mountain, sea and waterfall, is magnificent. Recovery from most maladies except hepatic, dysenteric or rheumatic is accelerated, and to those jaded and exhausted by some forms of disease, long exposure or hard work, the transition to the greater altitude and more elastic air is often very beneficial.

*Mount Abu* is in the native state of Rajputana, and is separated from the Aravallis, to which it really belongs, by the

valley of the Western Banass river. It is situated in latitude  $24^{\circ} 35'$  N., longitude  $72^{\circ} 53'$  E., and is about 420 miles from Bombay. Its base is about 50 miles in circumference, and its average height 4,000 feet above sea level. It is very irregular on the surface and the highest peak is over 5,600 feet above sea level. It is composed of granite with a mixture of blue slate and quartz. The inhabited part is a basin perforated by ravines, studded with hills and surrounded by higher eminences from which gorges descend to the plains. The distant views are very picturesque; vegetation is luxuriant and semi-tropical; a lake about two miles in circumference is found on the western side of the station. The hill sides are well wooded, and at the beginning and termination of the monsoon it has its most charming aspect, green with vegetation and brilliant with flowers, and all the little valleys are filled with clear streams. The mean annual temperature is  $70^{\circ}$ , the average maximum in summer is  $92^{\circ}$ , the extreme  $98^{\circ}$ ; in the winter the temperature is about  $50^{\circ}$ , but occasionally it freezes at night and hoar frost covers the ground. The daily temperature is on the whole equable, and the station is sheltered from the winter east winds. The rainfall averaged during ten years sixty-four inches, August being the most rainy month. It is often enveloped in clouds during the monsoon. Though the summer is warm it is a great contrast to the heat of the burning sandy plains below, and is generally tempered by refreshing breezes; the atmosphere is light and elastic and the nights cool. It is raised above the hot winds, but is not altogether free from malaria, especially from October to the end of the year. The water is somewhat uncertain in quantity though good in quality.

The advantages of this station as a dry, tonic climate without great vicissitudes of temperature are considerable, and are much appreciated. It is susceptible of further development, which doubtless will take place as time goes on. It is now the headquarters of the Rajputana Political Agency, one of the Lawrence Asylums for European children, and a sanatorium for British troops. It is a great place of resort for those who are exhausted by climatic causes and hard work, and for convalescents after any ordinary malacies, except hepatic and confirmed forms of

bowel complaint, or those who have suffered from severe malarial fever and are liable to recurrences of it.

The station of *Matheran*, lat.,  $18^{\circ} 58' N.$ , long.,  $73^{\circ} 18' E.$ , which rises abruptly from the plain, consists of trap rock and laterite, is very irregular in form, its central ridge is about one and a half miles long and half a mile in breadth, with spurs which are known by various names. Its proximity to Bombay, only about twenty miles as the crow flies, makes it of great value to that city. It can hardly be dignified by the name of a Hill Station, but as it illustrates remarkably the advantages of even 2,460 feet of elevation, in its cooler atmosphere, its pleasant breezes and proximity to the sea, it is worthy of mention. The rainfall is heavy, amounting sometimes to 250 inches in the season, when Matheran is not desirable as a residence, but it runs off quickly. In the cold weather, from the middle of October to the beginning of March, the temperature rarely reaches higher than  $78^{\circ}$  by day and  $70^{\circ}$  by night, but in March and April it may reach as high as  $90^{\circ}$ , with a mean of  $80^{\circ}$ . The place appears to be free from malaria. Persons who have suffered from overwork and heat and who are convalescent after illness, other than severe malarial fevers or hepatic disease, will find it beneficial; and by resorting to it may sometimes avoid the necessity for more prolonged absence and change.

*The Nilgiris.*—In the south of India, in the Madras Presidency, a tract of mountain country lies between  $11^{\circ} 12'$  and  $11^{\circ} 37' N.$  lat., and  $76^{\circ} 18'$  and  $77^{\circ} 15' E.$  long. These are the Nilgiris, the total area of which is 957 miles, the surface undulating, in some parts not much wooded and the fall to the plains sudden and abrupt. In other parts of these elevated lands there are extensive forests. The general elevation of the table-lands varies from 6,000 feet to about 7,600 feet. There are several high peaks, Dodabetta, the principal, measures 8,760 feet. In the high lands some European settlers have already established themselves, and there are four European stations: Utacamand, 7,361 feet; Wellington or Jackatalla, almost exclusively military, 6,100 feet; Conoor, 5,886 feet; Kotagherri, 6,571 feet. These Hill Stations are justly in great request and much frequented. Their elevation in that latitude, their relative proximity to the

sea, and the influence exercised over them by the monsoon, produce a climate well suited to the European constitution, in which our race may maintain its healthful vigour, and where there is good reason to believe that, other accessories being favourable, a permanent home for the European race might be and indeed is established, though, of course, time alone can determine in what this attempt at colonisation will result. When compared with the elevated stations of the Himalayas, the distinctions arising out of differences of latitude, proximity to the sea in the one case and to the snowy range in the other, are expressed in the Nilgiris in the greater equability of the climate, neither the heat nor the cold being excessive, whilst the configuration of the country itself, with its long, undulating plains renders it more suitable to the habits and constitution of the European. Time does not permit of my dwelling upon the physical aspects and on the magnificent scenery presented by these mountain peaks, undulating plains and rushing rivers; but let me say a few words about Utacamand, the chief station, and Conoor and Kotagherri, which seem to be so intimately associated with each other, invalids or others frequently finding a sojourn at one of these places a wise preliminary to that at Utacamand, whilst Wellington holds a high place in the medical annals of the British army, upwards of 1,000 men being in the convalescent dépôt there.

*Utacamand* is situated in an elevated valley or basin surrounded by hills, easily accessible by rail from Bombay, and has a lake in the centre; there are few trees in its immediate vicinity. From its peculiar geographical position it feels the influence both of the S.W. and the N.E. monsoon; the rainfall is, according to Hunter, forty-five inches annually, though it varies in different parts of the Nilgiris, the highest fall being in June and July, brought by the S.W. monsoon; this is the most unpleasant season. The N.E. monsoon sets in in October and is also accompanied by rain; the months of November and December are showery and the latter cold; the atmosphere after that becomes dry. January, February, March and April are clear, with dry N. and E. winds. The mean annual temperature is  $58^{\circ}$ ; in the hottest season it seldom exceeds  $75^{\circ}$ —it may drop

at night to  $54^{\circ}$ , but the mean range seldom exceeds  $9^{\circ}$ . The hottest month is May, the coldest are December and January, when the freezing point is sometimes, but very seldom, reached at night. At this time the range between the hottest part of the day and the coldest part of the night is about  $16^{\circ}$ . In the cold season, in the rarefied air, the sun's rays have great force, and even in this comparatively equable climate it is necessary to guard against sudden changes of temperature. From differences in altitude, locality and physical characters generally, varieties of climate are within easy access.

*Conoor* is milder and less subject to these sudden changes of temperature, and therefore more suitable to delicate persons on first going to these hills. The climate generally of the Nilgiris is suitable for all conditions of depressed health, or after disease contracted in the plains, except, as in most other hill climates, those of hepatic or dysenteric nature. *Conoor* is not so high as *Utacamand*, but is much more beautiful, as the sides of the hills are wooded. The mean average temperature is  $64^{\circ}$ , of the summer  $70^{\circ}$ . It is more relaxing than *Utacamand*, and in the winter is more sheltered from the N.W., to which the latter is exposed. The waterfalls that occur during the monsoon are most picturesque, one at no great distance being 400 feet. At this elevation the tropical character of the vegetation ceases.

Most of these remarks apply to *Kotagherri*, which is only a little higher than *Conoor*.

*Darjeeling*, lat.  $27^{\circ} 2' N.$ , long.  $88^{\circ} 18' E.$ , about 400 miles from Calcutta and easily and rapidly accessible by rail, is situated in a district of the Sikkim Himalayas, 138 square miles in extent, which was acquired from the Rajah as a sanatorium in 1835. The height of the ridge varies from 6,500 feet to 7,500 feet above sea level. Most of the houses are perched upon this ridge, others are on the side, with a S.W. aspect. Rather more than half way up is the station of *Kurseong*, at an elevation of about 4,500 feet, where it is sometimes better for Europeans to sojourn for a time before going to the greater elevation of *Darjeeling*. The geological formation is chiefly micaceous, shale and gneiss, with granite, sandstone and slate. The S.W. monsoon produces a heavy rainfall, averaging from 120 to 150 inches in the year.



The humidity of the atmosphere is consequently considerable, especially during the fogs and rains of the monsoons. The climate, however, is very equable, in which it differs from other Himalayan stations. Snow falls in the winter to a much less extent than it does at Simla, and the winter is milder. The mean annual temperature is  $56^{\circ}$ , the maximum in July is  $70^{\circ}$ , in May  $65^{\circ}$ , in December  $52^{\circ}$ , the minimum being respectively  $59^{\circ}$ ,  $51^{\circ}$ , and  $36^{\circ}$ . The views from the station and the surrounding localities are very fine; the low valleys on the one hand, some with rivers flowing through them, and on the other hand range upon range of snow mountains, from 15,000 up to 28,000 feet, are exceedingly picturesque and magnificent. The roads are numerous and well kept, sanitation is good, and the water supply pure and sufficient. The flora is very varied, fine trees, such as saul, magnolia, oak, chestnut, toon, coniferæ of kinds and rhododendrons; whilst ferns, creepers and numerous flowers, such as orchids, abound, and the cinchona plantations, a recent but rapidly increasing and important industry not far distant, are most interesting. The climate in March and in May is like that of Europe. During the monsoon the rain is disagreeable, but there are frequent intervals in which the climate is pleasant enough. From October to March the weather is sunny, bright and cheerful, the nights cold, clear and sometimes frosty. Darjeeling is the summer residence of the Lieutenant-Governor of Bengal, and is resorted to by numbers, many of whom are planters in the Terai and neighbouring districts. Though the Terai itself and the valleys are malarious, yet the fever never originates in the station, it being raised above malarious influences, and people from the Terai suffering from fever recover speedily at this station. Whilst diarrhoea is not unfrequently found at other Himalayan stations, it is comparatively uncommon at Darjeeling, nor does there seem to be any special tendency to bronchial troubles. As a change, which is so necessary after long residence in the plains where exhaustion and hard work have deteriorated the general health, and where there is no definite organic disease, and no complications, such as asthma, cardiac or cerebral disease, thought not to do well here, it is of the greatest value as a health resort. Delicate people and young children especially, thrive almost as well as they would in Europe.

*Naini Tal*, in Kumaon, in the N.W. provinces, lat.  $29^{\circ} 22' N.$ , long.  $79^{\circ} 29' E.$ , may be described as an amphitheatre surrounded by hills, which are 2,000 feet higher except on the S.E., where it is open to the plains. Between the main range and a spur called the Ayapata, is a valley with a picturesque lake or Tal, probably an ancient crater, from which the place takes its name, about one mile long and a quarter of a mile broad. On the slope above this lake the present station is built, and at various elevations. The height of the lake above the sea is 6,400 feet, and the hills surrounding it rise to 8,500 feet, the ascent from the station being rather precipitous. From some ridges near the station magnificent views of the snowy ranges, including some of the higher peaks, are to be seen, with the intervening valleys and lower ranges gradually leading up to them. The scenery of the station itself and the views of the lake are most picturesque, while the flora is varied, consisting of rhododendrons, cypress, ash, and a variety of flowers and ferns. English vegetables and fruits are also produced in the cold season. The geological formation is clay, slate and limestone with light friable soil. In 1881 it was the scene of two serious landslips, which destroyed many buildings and several lives. This station is the summer resort of the Government of the N.W. provinces and consequently is much frequented. The climate is bracing and invigorating, except in the rains. The average rainfall is 70 inches, but in some years it is double that amount, and it rains more days in the year than at other places. During a period of seven years it was recorded that some rain fell in every month except October, but August is usually the wettest month. The temperature in summer rarely exceeds  $80^{\circ}$  and in winter it may sink to the freezing point. The maximum and minimum in May are  $78^{\circ}$  and  $48^{\circ}$ , in June  $69^{\circ}$  and  $59^{\circ}$ , in July  $78^{\circ}$  and  $61^{\circ}$ , in August  $76^{\circ}$  and  $62^{\circ}$ . Water is derived from springs and is good, and the sanitation of the place is carefully provided for. In the cold weather invalids and children may be out most of the day, though occasionally snow falls. February and September are said to be most disagreeable months. This picturesque and beautiful station is very easily accessible by the railway to near the foot of the hill and thence by good road,

and there seems to be ample accommodation for visitors. Those are most benefited who have been debilitated by long residence in the plains or who have suffered from frequent attacks of intermittent fever, or other diseases unattended with organic complications. As is the case with the Hill Stations generally, it is not so beneficial for hepatic or dysenteric troubles, and it is not free from occasional occurrences of so-called "hill diarrhoea" and indeed from rheumatism and neuralgia, due to its exposure to occasional cold northerly winds. Cases of bronchitis and croupy affections in children are also of occasional occurrence. Persons who suffer from any organic disease, cardiac or other, should not go there without medical authority, and as the transition from the plains to this greater elevation is sudden, delicate persons should not undertake it without the sanction of their medical adviser.

There is here a convalescent dépôt for European soldiers in which in 1897 there were 123 inmates.

*Simla* (lat.  $31^{\circ} 6' N.$ , long.  $77^{\circ} 11' E.$ ), in the district of Simla, in the N.E. corner of the Panjab, the largest and most important of the Himalayan stations, is on a ridge of the sub-Himalayan system, of a crescentic form, culminating in the east in the peak of Jakko and in the west in another peak, Prospect Hill. From Jakko the ridge gives off another spur to the north called Elysium, and another to the east towards Mahasu; it is, in fact, a series of ridges and spurs upon which the numerous houses are most picturesquely situated, on the north aspect of which is the snowy range and on the west the plains, at a distance of about forty miles. The area of the whole district, obtained from the Patiala Rajah in the first quarter of the century, is about eighteen square miles. It is approached by good roads, but the rail, which already reaches to the foot of the hills, will no doubt, as in the case of Darjeeling, be extended nearer to the station. The scenery is very picturesque; to the north the mountain ranges on the other side of the Sutlej valley are covered with dense vegetation, whilst in the distance is the magnificent panorama of the snowy range. The valleys to the north and south are also beautifully wooded, whilst the Kussouli and Sabathu hills, at a lower level, which are military sanatoria, are

seen, with the plains of Umbala, extending far in the distance. The hills generally about Simla are well wooded by oak, deodar and rhododendrons, which are very beautiful. These mountain ridges are composed chiefly of metaphoric rocks, shale and conglomerate, limestone and mica. The average height of the station is 7,100 feet, the fir-clad peak of Jakko rising to 8,000 feet. The average rainfall is 76 inches, but it varies, ranging from 50 to 100 inches, and during the rainy season there is much mist. The mean annual temperature is 60°; in the hot season it frequently attains to 85° or 90°, whilst in the cold it may fall to 22° at night. From the middle of March and in April, the mornings and evenings are fresh and cool, the day bright and pleasant. In May it is warm and dry with a temperature from 70° to 80°. In June, the hottest month, the temperature may rise to 90°; in the middle of June there is a certain amount of rain, but in July the regular rains begin which continue with intervals till the middle of September. During this period the atmosphere is damp and the station is often enveloped in clouds. Bright and bracing weather follows the rainy season, and in October the air is peculiarly bright and clear, and the scenery is then very beautiful. Snow begins to fall in December, increases during January, and sometimes lies deep on the ground. The air is then dry, calm and bracing, and very agreeable to persons in good health.

Another ridge, *Chini*, is notorious for its dry elastic atmosphere and moderate rainfall, the climate being bracing and healthy like that of Switzerland. Complaints have been made from time to time about the sanitation of Simla, and of overcrowding. The water supply is good, having been lately improved. Simla is the summer resort of the vice-regal court, and is naturally a most popular station, and much frequented, not only during the season but also throughout the winter. The climate is beneficial in ordinary malarial diseases, if unaccompanied by structural changes, but, as in the case of other hill stations, it is specially useful after prolonged residence and hard work in the plains.

Like the others, also, it is unsuitable in dysenteric, hepatic, cardiac, or lung complaints. Hill diarrhoea is not unfrequently

seen and requires special precautions, especially in those who have any tendency to bowel complaints, or have just come up from the plains and are more than usually susceptible to alternations of temperature. Children thrive well here, but the question of their remaining during the winter may require consideration. At Sanower, close by, is the Lawrence Asylum for European children. Here also, as at Sabathu and Kussouli, a few Europeans resort.

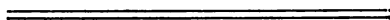
The climate of Simla, in  $31^{\circ}$  N. lat., as compared with that of Utacamand in lat.  $11^{\circ}$  N., at about the same elevation, shows a considerable contrast in its extremes of temperature, both of heat and cold, and the greater equability of the climate is very frequently the reason why the more southern Hill Stations are preferable to the northern, especially in the case of certain diseases or constitutional peculiarities in which these are important considerations. Such questions can be best determined by medical authority on the spot, but it may be safely said of all, from 4,000 feet to 8,000 feet, in whatever latitude, that they are of exceeding benefit to Europeans, for here they are placed above those morbid influences which determine the forms of tropical disease, and in an atmosphere not too rarefied to be prejudicial.

It is also worthy of consideration, and nowhere could this consideration be more appropriately given than by this Society, whether the Hill Stations of India might not be more resorted to by people from our own islands, when prolonged absence from this country is necessary, and residence in a milder and more genial climate sought for. The evils of the winter in England might be avoided by residence in the plains of India or on the plateau of the Deccan, and if necessary that absence should be prolonged, the hot weather in India might be beneficially spent in one of the Hill Stations.

There are many other Hill Stations in India and amongst them might be included the lofty valley of Cashmere, in which all the advantages resulting from altitude, pureness, and rarefaction of air and removal from the various conditions which give rise to tropical diseases, are found. But it is impossible for me in the short time at my disposal, to enter into any description of these or other cognate subjects of the greatest interest.

I have endeavoured, briefly, to indicate to you certain points with regard to the Hill Stations of India which I thought might form the subject of profitable consideration in a Society such as this, so eminently qualified to estimate their value and importance, and it only remains for me to apologise for having treated the subject so cursorily.

This lecture was illustrated by paintings of the Himalayas by the Rt. Hon. Sir R. Temple, Bart., late Governor of Bombay; photographs lent by Mr. Birdwood, C.S.I., Bombay Civil Service, and by photographs and sketches lent by the Indian Office, and by the Royal Geographical Society.



## Original Communication.

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### GOUT AND RHEUMATISM IN RELATION TO BATHS AND CLIMATE.

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RHEUMATIC and gouty affections, regarded from the balneological and climatological point of view, group themselves in a somewhat special manner. Classifications may be based on etiology or pathology or therapeutics; but for our present purpose it would seem well to deal with the subject on a narrower though still comprehensive basis. Some of the articles in the series will draw attention to the use of particular spas and climates, but in a preliminary enquiry matters of a more general import need to be discussed.

Rheumatic fever and acute gout fall out from our investigation inasmuch as such attacks are as a rule too sudden in onset and too severe in character to justify locomotion or to call for the selection of baths or health resorts. The more modern views of the pathology of rheumatic fever would also tend to make us hesitate to recommend patients recovering from an attack to proceed to any of the recognised bathing resorts for hydro-therapeutic measures. Rheumatic fever is by most authorities considered to be an acute, non-contagious fever dependent upon an unknown infective agent, a micro-organism, and that the effects of the toxins evolved are of long duration—probably at least five weeks, and that during that period the patient should be kept completely at rest, so that bath-treatment would seem to be directly contra-indicated.

Gout is regarded as a constitutional and nutritional disorder, and the chronic forms are certainly benefited by hydro-therapeutic measures. Manifestations of gout are largely due to excessive formation and deficient excretion of uric acid,

and any means, such as the use of certain natural waters, which increase the elimination of uric acid, should be taken advantage of in the treatment of the gouty constitution.

There is a certain relationship, more apparent than real, between certain arthritic and muscular conditions, such as chronic rheumatism, arthritis deformans (rheumatoid arthritis), and muscular rheumatism. The term "rheumatic gout" is sometimes employed for arthritis deformans, but the term is to be deprecated as being misleading from a pathological point of view. Our knowledge of the true pathology of these conditions is vague and uncertain. It is probable that, in the course of time, it will become possible to adopt some more accurate system of classification. On the other hand, there is a relationship more real than apparent between certain kinds of arthritis and morbid manifestations in other parts, *e.g.*, tonsillitis, chorea, neuralgia, &c. In the investigation and treatment of such cases the primary cause (*e.g.*, rheumatism) is apt to be lost sight of, to the detriment of the patient. Such phenomena, however, chiefly occur in connection with or as *sequelæ* to acute attacks, and with the exception of neuralgia (especially of the sciatic nerve) are not often suitable cases for balneological treatment.

With these few preliminary remarks in reference to the pathogeny of the affections which are commonly considered most suitable for treatment by balneological and hydro-therapeutical measures, although naturally many other diseases are suitably treated by similar means, such as various cutaneous affections, anæmia, syphilis, &c., a few suggestions may be offered as to the action of natural waters, whether taken internally or administered externally, although our knowledge on these points must be designated as mainly empirical. It is impossible merely from the chemical analysis of a mineral water to give an absolute judgment as to what its clinical value is likely to be. Some authorities maintain that the results of the treatment of disease by the natural thermal waters are simply dependent on their temperature, and that the same results would be obtained by the systematic use of ordinary water heated to the same temperature. Granting this to be true (which, however, we do not admit), our bathing resorts would be equally valuable, for it would practically



be impossible to obtain an equal supply of water at a uniform temperature from 104° to 120° F., such as is provided by nature at the various recognised "spas." We believe we are correct in saying that the above view is not the correct one, and that the constituents of the water do play an important though undetermined part in its medicinal value. This statement, however, does not perhaps apply as much to the mineral salts which the water contains as to the gaseous constituents, with the exception of iron, arsenic, and sulphur, particularly the last named. The proportion of mineral constituents is usually so small that it is difficult to understand how the amount of salt taken can be responsible for the results obtained. There is one consideration however, that must qualify such a general statement as we have just set down, viz., that we do not know what is the natural combination in which the elements of the "mineral waters" exist. They may be in such a form that renders them far more readily absorbed than when the same salts are administered according to our usual therapeutical preparations. Support is added to this theory by the attempts which have been made to imitate, by chemical means, the natural waters—always with very partial or even without any success. Laboratory experiments corroborate this conclusion. For example, Dr. Luff has shown that an extract of the ashes of plants have a solvent effect on the biurates of soda; yet when an attempt is made to form the solution artificially the same solvent action is not obtained. So is it with efforts to imitate the natural waters, the explanation being as above suggested, that it is not known what is the natural combination in which the elements exist. Clinically that fact makes all the difference. This particularly applies to gaseous constituents of certain waters. At Bath and Buxton notably a large quantity of nitrogen is evolved, together with some carbonic acid, oxygen, and the two rare elements, helium and argon. The mineral constituents of the two waters differ considerably in amount, yet the clinical effects are very similar, suggesting that the therapeutical value is due to the gaseous and not the saline constituents. Again, at Nauheim carbonic acid gas is evolved in very large quantities. The cardiac action is considerably modified thereby in a most favourable manner, and here and

there the natural form in which the gas is evolved plays an important rôle, for most observers are agreed that the artificial attempts to imitate the Nauheim waters have not proved by any means successful.

Dr. Armstrong, of Buxton,<sup>1</sup> has recently published a paper on "The Influence of the Buxton Thermal Water in the Excretion of Uric Acid," which bears out the above remarks. The results of his investigation may be summed up as follows:—“(1) that the excretion of uric acid and the flow of urine are both largely increased by the drinking of, and by immersion in, the Buxton thermal water; (2) that it is more efficacious when bathed in than when drunk, as regards uric acid excretion; (3) that the diuresis is somewhat greater when drunk than when used as a bath; (4) that any deviation from the normal temperature either by heating or cooling interferes with its efficacy; and that (5) while the alterations in temperature would not be likely to diminish the therapeutic properties of the salts, they would, on the other hand, greatly interfere with the contained gas.” Dr. Armstrong’s results strongly corroborate our own views. It would be interesting to ascertain whether the amount of diuresis corresponded with increased amount of water taken by the patient.

It was a common observation, regarding gout, made by the late Dr. Todd, that there was no disease in which the patient if so minded could do so much for himself, and on the other hand none in which the best prescriptions were so valueless when the co-operation of the patient was lacking.

Rules of diet and *regime* which with the necessary medicinal aids should suffice, are applied at a Spa with greater facility and regularity than at home.

The old-fashioned plan of defining the length of “the cure,” has been given up, and it is left to experience in each case to decide the time needed for the course. Busy people submit with a better grace to the Spa treatment with a subsequent prolonged period of rest than to home management however varied.

Climate questions and the choice of a Spa or health resort, must be regulated by considerations as to season and time of year.

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<sup>1</sup> *Lancet*, 1900, i., p. 1651.

Delicate people are as a rule, better in the English summer than in winter, and are then more readily benefited by Spa treatment.

Balneological methods are then too, more generally applied, but the hotter resorts like Ems, Vichy, Aix-les-Bains, are best avoided during the hottest weeks of the year, when such elevated stations as St. Moritz deserve consideration.

So great are the present facilities of locomotion that, in the treatment of chronic gout and rheumatism, we are not limited in our selection to the British or even the European health resorts.

If for instance, the season of the year should make these undesirable, we may without waiting for the spring, send our patients to suitable havens at any time.

If sulphur baths are needed in winter, we may send them to Helouan, where from November to April (or December to March at any rate) they can take the waters whilst enjoying the dry, health-giving climate of the desert.

Or, to take another example, if we seek a hot chalybeate spring for bathing and drinking purposes, we have at Caledon near Cape Town, a Spa of unique value, of a higher temperature and containing more ferrous carbonate than any known iron spring. Caledon is resorted to throughout the year, but should be avoided in May, June and July, when happily our own European chalybeate spas are available.

These waters, valuable in anæmia, are recognised throughout South Africa as of marked value also in gout, rheumatism, neuralgia, and many digestive disorders.

In offering these introductory remarks, we have purposely abstained from discussing at length any of the special indications for hydro-therapeutic measures or the numerous Spas and resorts where such may be carried out, these points will be more fully considered by other writers. Our desire has been to indicate the lines upon which balneological treatment is based and to offer a few general suggestions upon the more important maladies which come under the notice of physicians, and which are considered suitable to be sent to one of the recognised health and bathing resorts.

## BRITISH BALNEOLOGICAL AND CLIMATOLOGICAL SOCIETY.

COPY OF GENERAL MINUTES, APRIL 26, 1900.

THE following candidates were elected Fellows of the Society :

Francis Henry Foulds, M.R.C.S., L.R.C.P., Droitwich.

Ronald Campbell Macfie, M.A., M.B., C.M., Llandrindod Wells.

Dr. ANDREW S. MYRTLE read a note on "Personal experiences of Gout," which was discussed by Drs. LUFF, BEZLEY THORNE, and BOWEN DAVIES.

Dr. H. LAING GORDON (Forest Hill) gave a most interesting and instructive lecture on "The Climate and Hospitals of Rhodesia," which was illustrated by lantern slides, and was much appreciated by the Fellows.

The PRESIDENT, Dr. ALFRED HILLIER and Dr. LEONARD WILLIAMS made remarks.

The PRESIDENT proposed, and Dr. SUNDERLAND seconded a vote of thanks to Dr. LAING GORDON for having added so much to the interest of his paper by the use of the lantern which he had provided at his own expense.

This was carried unanimously.

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# BRITISH BALNEOLOGICAL AND CLIMATOLOGICAL SOCIETY.

## COPY OF MINUTES.

THE ordinary meeting of the members of the above Society was held at 20, Hanover Square, May 30, 1900, at 8.30 p.m. The President, Dr. Ivor Murray in the Chair.

The minutes of the last meeting were read and confirmed.

The following candidates were elected Fellows of the Society :

Robert Barnes, M.D., F.R.C.P. and S., Eastbourne and London.

Bruce E. Goff, M.B., Brighton.

George Lorimer, M.A., M.D., Buxton.

Stanley Morton Rendall, M.D., M.R.C.S., Mentone and Aix-les-Bains.

J. P. B. Wills, M.D., M.R.C.S., Bexhill-on-Sea.

John Wilkinson, M.D., M.Ch., D.P.H., Droitwich.

William Armstrong, M.R.C.S., L.S.A., Buxton.

## GENERAL MEETING, MAY 30, 1900.

Dr. IVOR MURRAY in Chair.

Minutes of last meeting read and confirmed.

The balance sheet for the session ending September 30, 1899, as amended by the Council on April 26, was received and adopted.

Dr. Abraham Thomas (Aberystwith) and Dr. Leon (Sidmouth) were appointed Scrutineers of the Ballot for Officers and Council for the ensuing session, and the ballot was declared open by the President.

Drs. Hedley and Achard were appointed Auditors of the accounts for the year ending September 30, 1900.

Due notice having been given to the Fellows on the card convening the meeting, it was proposed, seconded, and carried unanimously, that the following alterations should be made in Law 13, namely, the substitution of the word "one" for "two" and the addition of the words "or by vote of the Council" at the end of the Law.

The Chairman of Council's report on the state and prospects of the Society, was read and adopted.

*Report on the Progress of the Society.*

The Council begs to submit the following report on the state and prospects of the Society : During the past session five ordinary meetings have been held. The attendance of country members has been sometimes small, but the value and interest of the proceedings have been fully maintained. Two nights were devoted to an interesting discussion on the treatment of nervous disorders by baths and climate, which was introduced by Dr. Harry Campbell.

The Society at present numbers 352 Fellows, twelve of whom have been elected during the past year, nineteen have resigned and five have died. This last number includes the following : Sir Thomas Grainger Stewart, Hon. Vice-President, Dr. Sinclair Coghill of Ventnor, the late President-elect, who died a few days after being elected to that office, and in whom the Society has lost an able and experienced worker in the field of medical climatology, Dr. Crofton of Southampton, Dr. Watson Paul of Cowes, and lastly Dr. Samuel Hyde. By the much deplored death of Dr. Hyde the Society is deprived of its most prominent and zealous member, and the Council loses one whose tact and wisdom were strikingly shown in the foundation of the society, and have largely contributed to its success.

Dr. J. Ivor Murray of Scarborough, has discharged the duties of President with the courtesy and dignity befitting that office.

The library has been increased by a valuable bequest of books from the late Dr. Hyde. By the kindness of the Hon. Librarian Dr. Morgan Dockrell, it has been temporarily housed, for the convenience of the Fellows, in a room provided by himself at 52, Mortimer Street. The books are now sufficiently numerous to constitute an important collection of Balneological and Climatological literature, and it will shortly be necessary for the Society to take steps for housing them in a more permanent manner. Dr. Leonard Williams and Dr. Septimus Sunderland have been appointed editors of the Society's Journal, in the place of the late Dr. Hyde.

The point at which the Society after five sessions has now arrived, and the changes that have unexpectedly taken place in the

circle of its original Fellows, may well cause us at the present time to take stock of its position and prospects. It is true that the Society no longer benefits by the novelty that first attached to its existence. A large number of its Fellows connected with the Health Resorts take little or no active part in its proceedings. There is also a large body of practitioners both at the Spas and at the various marine and climatic stations, whose co-operation would be of value both to the Society and to themselves, but who still remain unconnected with it. It is to be hoped that the Fellows will more and more cultivate the opportunities which such a society affords, not only for the advancement of an important branch of medical science and practice, but for friendly association and good fellowship.

And it will always be a pleasure to the Council to receive and consider any suggestions that may be made in order to further promote the purposes for which the Society was founded.

The PRESIDENT announced that the following list of officers and Council had been unanimously elected.

*President.*

Frederic Bagshawe, M.D., F.R.C.P., J.P., St. Leonards-on-Sea.

*Vice-Presidents.*

W. Bowen Davies, M.R.C.S., L.R.C.P., J.P., Llandrindod Wells.

R. Fortescue Fox, M.D., M.R.C.P., Strathpeffer Spa, N.B.

C. R. B. Keetley, F.R.C.S., London.

J. G. Douglas Kerr, M.B., Bath.

Henry McClure, M.D., Cromer.

Wm. Moxon, M.D., Matlock.

J. Ivor Murray, M.D., F.R.S.Ed., J.P., Scarborough.

George Oliver, M.D., F.R.C.P., Harrogate.

Wm. V. Snow, M.D., M.R.C.P., Bournemouth.

Ernest Solly, M.B., F.R.C.S., Harrogate.

Alfred F. Street, M.A., M.D., D.P.H., Westgate.

George S. Watson, M.R.C.S., Tunbridge Wells.

*Council.*

Gilbert A. Bannatyne, M.D., C.M., Bath.

Andrew A. Brockatt, M.D., Malvern.

G. Wm. Hamilton Cumming, M.D., Torquay.

Alexander George Davey, M.D., Ryde, Isle of Wight.

Morgan Dockrell, M.A., M.D., London.

Willoughby Furner, M.D., F.R.C.S., Brighton.

John Hackney, M.D., Hythe.  
C. G. Havell, M.D., Felixstowe.  
Alfred Haviland, M.R.C.S., Frimley, Hants.  
Edmund Hobhouse, M.D., M.R.C.P., Brighton.  
Jas. Atkinson Hosker, M.R.C.S., Boscombe, Bournemouth.  
G. H. Ward-Humphreys, M.R.C.S., L.R.C.P., London.  
Stephen Inglis, M.B., M.S., St. Leonards-on-Sea.  
W. Black Jones, M.D., D.P.H., Llangammarch Wells.  
Cecil Latter, M.D., Folkestone.  
George Leon, M.D., M.R.C.S., L.R.C.P., Sidmouth.  
Patrick Letters, M.D., Valencia.  
Thomas Mackenzie, M.D., M.C., Douglas.  
Thomas Macqueen, M.B., C.M., Eastbourne.  
C. B. Thomas Musgrave, M.D., Cromer.  
S. T. Pruen, M.D., M.R.C.S., Cheltenham.  
John E. Ranking, M.A., M.D., F.R.C.P., Tunbridge Wells.  
Abraham Thomas, M.B., Aberystwith.  
George Hobson Thompson, L.R.C.P., M.R.C.S., Buxton.  
Robert Thomson, M.A., M.D., Margate.  
F. L. Thorne, M.D., M.R.C.P., Leamington.  
C. W. E. Toller, M.D., Ilfracombe.  
Charles Whitby, M.D., Clifton.  
Cyril John Williams, L.R.C.P., Woodhall Spa.  
Leonard Williams, M.D., London.

*Chairman of Council.*

R. Fortescue Fox, M.D., M.R.C.P., Strathpeffer Spa

*Hon. Treasurer.*

A. P. Luff, M.D., F.R.C.P., London.

*Librarian.*

Morgan Dockrell, M.A., M.D.

*Hon. Secretaries.*

H. Shirley-Jones, M.R.C.S., Droitwich.  
Septimus Sunderland, M.D., London.

On the same evening the Fellows entertained at dinner at Limmer's Hotel, Sir Joseph Fayrer, Bart., K.C.S.I., and Dr. Robert Barnes, F.R.C.P., and after dinner a *Conversazione* was held at 20, Hanover Square, which was eminently successful, being very largely attended. A letter was read from Sir Edward Sieveking, K.B., the Honorary President of the Society, regretting his inability to attend, conveying his good wishes to the meeting, and assuring the Fellows that he continues to take the



deepest interest in the welfare of the Society. Letters of regret were read from Sir Herman Weber, Sir Walter Foster, Sir Joseph Banks, Dr. Theodore Williams, Professor Clifford Allbutt, Dr. F. Bagshawe of St. Leonards (President-elect), and others. There were present representatives of most of the English, Welsh, and Scottish Spas and of many sea-shore resorts, as well as a large contingent of London Fellows and guests. The address delivered by Sir Joseph Fayrer on "The Hill Stations of India as Health Resorts" proved of intense interest, its value being further enhanced by the exhibition of charming paintings lent by the Right Hon. Sir Richard Temple, Bart., late Governor of Bombay, of photographs lent by Mr. Birdwood, C.S.I., and of sketches and maps lent by the Royal Geographical Society and the India Office.

The Lecturer laid considerable stress upon the advisability of the hill stations of India being used as health resorts by some Europeans who can spare the time and can afford the necessary expense, and pointed out that the journey to some of these hill-stations would occupy only about three weeks. He strongly urged that European physicians should bear in mind certain advantages of climate which these hill-stations of India possess.

The President, Dr. IVOR MURRAY, himself a Crimean veteran, in proposing a vote of thanks to Sir Joseph Fayrer, expressed his personal thanks to his old friend for coming and giving them such an interesting address. Very little was generally known about the hill-stations of India, some of which might be resorted to with advantage even by invalids from Europe. He had visited some of those stations, such as Simla, Sabathoo, Murree and the Hills of Kashmir, and could endorse all that was said by the lecturer in reference to the beauty of the scenery and climate.

Dr. ROBERT BARNES: "I have much pleasure in seconding the vote of thanks to Sir Joseph Fayrer for his excellent and instructive address. It is especially interesting as extending the scope of hygienic and residential fields to remote parts of the British Empire, thus adding a new bond of unity to the dominions of our Empress-Queen. Sir Joseph Fayrer has thus shown that the work of the Society embraces in its survey the British Empire."

Mr. FREYER said he had much pleasure in supporting the vote of thanks to Sir Joseph Fayrer, which had been proposed and seconded in such appropriate terms by the President and Dr. Barnes respectively. The task was congenial to him, not only because Sir Joseph Fayrer was an eminent member of their profession, but particularly in that he (Mr. Freyer) had the honour of numbering the lecturer amongst his warmest friends, and he was also a brother officer of the Indian Medical Service. Having spent many years in India, and having for some years held medical charge of the largest sanatorium in the Himalayan Hills, he could speak with some experience in this matter ; and he thoroughly endorsed every word that had fallen from the lips of the lecturer. If any of the Fellows required a lengthened rest and change of air, a trip to India for three or four months in the cold weather would well repay them. They would then have an opportunity of becoming personally acquainted with the climate and beauties of that country, of inspecting its ancient monuments, and of seeing its interesting and kindly peoples.

Living in stirring times like the present, they would forgive him if for a moment or two he ventured to direct their thoughts backwards to a period of nearly half a century ago—to the great Indian mutiny, and particularly to what might probably be regarded as the most memorable event in its history, viz., the siege and gallant defence of Lucknow. Sir Joseph Fayrer was one of the most prominent of the surviving band of heroes, now, unfortunately, rapidly decreasing in numbers, which in that historic defence had nobly upheld the traditions of their race. It was in his arms, metaphorically speaking, that that great soldier-statesman, General Sir Henry Lawrence, died, having been mortally wounded by a shell. If there was nothing attaching to Sir Joseph's name but the interest, the pathos, and the romance of that event, it would be famous. But Sir Joseph had many other laurels with which to wreath his brow. He was an eminent man of science, a Fellow of the Royal Society ; he was in his later years as distinguished a physician, as in his earlier years he was a surgeon ; he was the tried and trusted friend and physician of the heir to the throne ; and above all, he belonged to the highest type of the unassuming gentleman,

an honour in every way to that profession to which they all belonged.

Sir JOSEPH FAYRER, in acknowledging the vote of thanks, said that it had given him great pleasure to address the Society on the subject of Indian Hill Stations, as it appeared to him a subject peculiarly appropriate for their consideration. In the short time at his disposal he had been able to give them only the merest outline of a large subject which he hoped they would take up in detail, as, no doubt, there were many medical officers in the Army and Indian Service who were very competent, and, he felt sure, would be glad to discuss the subject, and he hoped that they would consider the question in its application to invalids or others from our own islands who might be seeking prolonged rest or change in such climates as those, both of the plains and the hills of India. It had given him great pleasure to obey the behest of his old friend Dr. Ivor Murray and to meet so many physicians from the different health resorts from our own islands. He must apologise for the very brief manner in which he had treated the subject, which was really too large to be compassed within the space of an hour, but he trusted that he had indicated certain points of importance which might form the subject of useful discussion in this Society. He was happy to have been able to illustrate his remarks by a beautiful series of original water colour sketches kindly lent by Sir Richard Temple as well as by other drawings and photographs also kindly lent by Mr. Birdwood of the Bombay Civil Service, and by the libraries of the India Office and the Geographical Society.

Dr. HEDLEY showed a telephone probe, and Dr. Page May of Helouan showed meteorological charts relating to the climate of Helouan and other stations in Egypt.

The following firms kindly exhibited : The Victor Light Company, acetylene lamps ; Messrs. Negretti & Zambra, meteorological instruments ; Messrs. Allen & Hanbury, instruments ; Messrs. Oppenheimer, drugs ; Messrs. Lewis, Books ; Messrs. Kimpton, Books ; Messrs. Van Abbot & Sons, dietetic preparations.

Music was provided by the Leoni Ladies' Quintette.

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## Notices of Books, Drugs, Appliances, &c.

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PRACTICAL GYNÆCOLOGY: A HANDBOOK OF THE DISEASES OF WOMEN.

By Heywood Smith, M.A., M.D.Oxon. Second Edition. Henry J. Glaisher, 1900.

The author of this book has before his mind's eye the vision of the busy practitioner, and he desires to present to that fortunate individual a manual, which will give at a glance the salient points of diagnosis and treatment, and will abstain from vexing the soul with discussions on disputed questions of pathology. For our own part, we have not much confidence in any system of instruction which professes to teach either diagnosis or treatment "at a glance," but we readily recognise that such a volume as the present has a distinct, if limited, sphere of usefulness and that on the lines which the author has elected to follow, his work has been well and carefully done.

The plan of the book is a familiar one. Under headings corresponding to those recognised in the orthodox nosology are arranged sections labelled causes, symptoms, diagnosis, treatment, &c., and in each of these the appropriate facts are stated in the fewest possible words but with a great multitude of semicolons. To attempt to *read* a book of this order is as depressing as the perusal of a dictionary, and the result is apt to be an attack of mental nausea and indigestion. Nor can such a book supply that accurate mental perspective without which facts become so terribly dangerous and misleading. Hence, for the student entering for the first time on a course of gynæcological work, this manual is quite unsuitable, and we do not gather that the author himself would dissent from this verdict. His appeal is to a more experienced audience, and we can well believe it will not be presented altogether in vain; for though we cannot but think that every practitioner who undertakes gynæcological work must almost certainly be in the habit of looking for guidance, and with a confidence born of experience, to one or other of the larger clinical manuals, of the usefulness of which (to judge from his preface), Dr. Heywood Smith entertains but a moderate opinion, yet there can be no doubt that the arrangement of the present volume is very convenient for readiness of reference, and the author deserves every credit for the sustained care and accuracy which mark the whole course of his work.

The most satisfactory part of the book is found in the sections dealing with the more frequent local diseases of the female generative organs; in those concerned with less common and more obscure conditions, and with general constitutional states, the deficiencies necessarily attendant upon the plan here adopted cannot but betray themselves. Taken as a whole, the book may

be recognised as serving a not unimportant purpose, and it may at times, and more especially on questions of treatment, afford valuable hints to the puzzled practitioner.

We have one word to say to the publisher. In a somewhat emphatic fashion he proclaims to the medical world that "this is a genuine handbook on the subject." We are not anxious to contradict him, for the work is certainly a book, and as certainly it can be held in the hand. But we hardly think him fortunate in the selection of his adjective. Even in the full glow of parental pride it is the reverse of seemly to suggest a claim to the sole privilege and monopoly of virtue, and the pleasing intimation that "Codlin is the friend" might excite a greater degree of confidence were it conveyed in terms free from an implied reflection on the good faith of Short. Further—so strong is the power of association—we never read in an advertisement an assurance that its subject is "genuine," but we expect also to find a pressing invitation to "look for the Government stamp, without which none is, etc., etc., etc." Now, even publishers are apt to be judged by the company they keep; and, if only on grounds of policy, it is well to remember that to overdo the part carries the risk of the comment "the lady doth protest too much, methinks."

THE WESTERN RAJPUTANA STATES. By Lieutenant-Colonel Archibald Adams, M.D., M.Ch., Indian Medical Service. London: Junior Army and Navy Stores. Royal 8vo, pp. 554.

There is a pathetic interest attached to the publication of this handsome volume, inasmuch as shortly after its issue from the press, the gifted author was carried off by cholera on May 20, at Mount Abu, in the Arivalli range, the only sanatorium situated in the tract of country described, and one of the most beautiful of the hill stations in India. The melancholy event partakes somewhat of the tragic, from the fact that, as stated by the author himself, cholera was previously almost unknown on this hill, only one imported case having been seen there within the memory of the oldest inhabitant.

The book is the outcome of official instruction to write a medico-topographical account of the Western Rajputana States, viz., Marwar, Sirohi and Jaisalmir. But, though a model in this respect, the book is much more. The dry statistical and medical details, which necessarily encumber a work of this kind, are rendered light and pleasant reading for the public at large by the introduction of a historical sketch of the political, social and economic aspects of these States. The author gives a brief but interesting history of the rulers of the country, one at least of whom can boast an ancestry, to which in antiquity, those of most European monarchs sink into insignificance. The religions, customs, manners and modes of thought of the people are dealt with in a masterly manner by the light and versatile pen of one who resided amongst them for eighteen years, sym-

pathised with them, and laboured to alleviate their sufferings, and improve their lot in life. The flora and fauna of the country are carefully described, and the lover of folk-lore will revel in the weird legends, superstitions, omens and proverbs of the people, so fully and pleasantly detailed.

The three native States described embrace the north-western half of Rajputana, an irregularly quadrilateral tract of country, some 400 miles long and about the same width, lying between the Punjab on the north, Central India on the south, the North Western Province on the east, and Sind on the west. The greater portion of the country covered by these States is a barren sandy desert; but there are numerous naturally fertile strips of land and artificially produced oases, which support one of the most interesting peoples in India, famed alike for their industry and enterprise, their martial bearing, their manly and chivalrous nature. They may in modern times truly be called "a nation of shopkeepers," sending forth merchants and bankers to the utmost confines of India; but they retain the noble instincts and proud ambitions of the ancient and warlike aristocracy.

The climate of the country may be described as one of extremes, the heat in summer, when scorching winds prevail, being intense, and the winter piercingly cold, with frost and ice at night. The rainfall is scanty, averaging about seven inches yearly, most of which falls in July and August. The alternations of temperature between day and night are also extremely severe and trying. The prevalent complaints are malarial fevers, dysentery, diarrhoea, ophthalmia and skin disease. Small-pox, which once scourged the people, has now almost disappeared, owing to the introduction of efficient vaccination. Cholera is rare, a fact attributed to the protection afforded by the sandy desert which engirths the country. The author lays down some excellent rules for the preservation of health in a climate of the kind. To anyone who is desirous of becoming acquainted with the manners, customs, and institutions, social, religious and economic, of an Indian native State, we can strongly recommend this book, which is written in an easy and graceful style, and most beautifully illustrated by reproductions from excellent photographs.

**THE CEREBRO-SPINAL FLUID: ITS SPONTANEOUS ESCAPE FROM THE NOSE.** By St. Clair Thomson, M.D., M.R.C.P., F.R.C.S. Cassell and Company, 1899.

This, which is an exceedingly interesting book, has the additional and we may add, somewhat rare merit of presenting the results of much labour and investigation, in a form which is well arranged and well written. The interest is, at this stage of our knowledge, perhaps a trifle academic, but then the author deals with a subject which has so far escaped recognition as a separate morbid entity. Reports of cases amounting in all to

about twenty-nine, presenting symptoms similar to those of the patient who first roused Dr. St. Clair Thomson's curiosity, have from time to time been published in various countries. These are all collected and carefully analysed, and the conclusion is reached that nine of them are unquestionably cases of cerebro-spinal rhinorrhœa; in twelve there is some doubt as to the exact composition of the fluid, though the balance of probability is strongly in favour of its cerebro-spinal origin. The remainder, from the meagreness of the records, are classed as "possible." After discussing these cases in considerable detail the author proceeds to distinguish between the newly differentiated morbid condition and those for which it has hitherto been mistaken. The importance of correct diagnosis is very great, because there is every reason to believe that the subjects of cerebro-spinal rhinorrhœa will, if left alone, suffer little beyond the inconvenience of the dripping, whereas if treated, especially if treated on heroic lines, septic absorption and consequent disaster are very likely to ensue. It is not generally known that the nasal fossæ provide their own bactericides. Yet, as Dr. St. Clair Thomson has already shown, such is the case, and he warns us that any interference with their action when cerebro-spinal fluid is escaping, is fraught with the gravest risks. Fortunately the author provides his readers with data, which will enable any one to recognise the pure fluid in future. It should, however, be remembered, that in some morbid conditions, notably general paralysis of the insane, the fluid is so altered in character as no longer to react to the distinctive tests.

Several questions in connection with this highly interesting condition are of necessity left open. How the fluid escapes; why it should escape; how it is that the loss in many instances does no apparent harm; why the left nostril should be the almost invariable route; the significance of the occasional supervention of optic neuritis and subsequent atrophy—all these are matters of the greatest moment and the deepest interest, and it is to be hoped that the book before us will lead to some exact observations in aid of their solution. The condition is a rare one, but for this very reason it is important that it should be recognised when it appears. Those who wish to be fully equipped for this purpose should read the book carefully and, having read it, so place it as to be accessible for reference.

#### **RHEUMATISM, RHEUMATOID ARTHRITIS AND SUBCUTANEOUS NODULES.**

By C. O. Hawthorne, M.D., M.R.C.P. London: J. and H. Churchill, 1900.

The dispute as to the relationship of the conditions which form the subject of this pamphlet, we have, like the poor, always with us. Dr. Hawthorne's contribution, if it does not bring us much nearer the issue, is nevertheless a painstaking and carefully reasoned effort to throw light upon some aspects of the matter

hitherto in doubt. The work is divided into three parts : the essay, case records, and supplementary notes. The first part, consisting of 25 pages, contains the argument, which is enforced by no less than 83 references to the works of other writers. The second, introduces us to six cases, all of which are illustrated by excellent photographs, and the third, which is also illustrated, touches upon various conditions, mostly by quotations, which have a bearing upon the general discussion. The whole is a monument of careful research, unbiassed statement and judicial treatment, without, however, very much practical outcome.

Is rheumatoid arthritis a true rheumatic manifestation, or is it another disease altogether ; a changeling, ignorantly introduced into the rheumatic family circle ? This is the question to which so many authorities have addressed themselves, some vigorously taking one side, and others, no less vigorously, the other. Dr. Hawthorne commits himself to neither. He admits all that can be urged in favour of each, but is especially careful to point out the limitations of both. The task which he proposes to himself is that of showing that the appeal to the subcutaneous fibrous nodule as final in favour of true rheumatism, is a practice which is based on a misapprehension. The opinion that the nodule never occurs in rheumatoid arthritis is one which finds a very general acceptance ; it is nevertheless quite untenable in the face of what Dr. Hawthorne adduces—and illustrates—to the contrary. Moreover, this does not end the matter. It seems that fibrous nodules have been known to occur in cases which were certainly neither rheumatism nor rheumatoid arthritis, so that their undoubted existence in the latter is no proof whatever of its real relationship to the former. To this conclusion the reader is brought by a process of reasoning which, while quite dispassionate, seems, nevertheless, to contain a promise of some definite haven at the far end. After so much labour, to enjoy being shot into a syllogistic *cul-de-sac*—and left there—demands an attachment to pure knowledge for its own sake to which the reviewer can unfortunately lay no claim. It is therefore much to be hoped that the author will continue his researches into these interesting and by no means unimportant matters, so that he may be in a position to present us at some future date with a more tangible result of his industry, his accuracy and his conspicuously judicial qualities.

THE EARLY TREATMENT OF APPENDICITIS. By Donald W. C. Hood, M.D., F.R.C.P. London : John Bale, Sons and Danielsson, Limited, 1900.

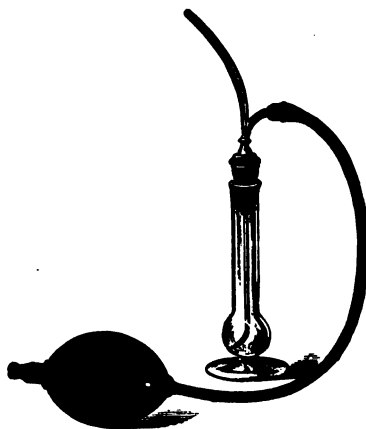
This is the reprint of a lecture summarising the author's clinical experience in the diagnosis and treatment of appendicitis. Containing as it does the convictions and conclusions of an observant and practical physician, it is well worthy of careful attention, and we are sure it may be read by the practitioner with much



advantage. In reference to treatment, Dr. Hood states, in no hesitating phrases, his faith in the value of opium, provided the drug is given from the outset and in sufficient doses. He is strongly opposed to the use of purgatives, and believes that if judicious medical measures are only enforced from the outset, the necessity for surgical interference will be quite an exceptional event. There is a note of vigorous personal conviction about the lecture which is very refreshing.

**ROGERS' NO. 1 SPRAY FOR NOSE AND THROAT.** Frank R. Rogers, 327, Oxford Street, W. Price 5s. 6d.

We have had an opportunity of testing this spray for some time, and we have every confidence in recommending it to those in search of an efficient and easily managed spray producer at a moderate cost. The particles, as they are expelled, are in a very fine state of division, and the receiver is so constructed as to



ensure that the solution can be utilised to the last drop. Another advantage is that the apparatus can be used for throat, nose, or general purposes without changing the nozzle. It is very compact in form, and if the instructions as to cleaning are attended to, there seems to be no reason why it should get out of order. Its price is exceptionally moderate.

**BATH EUCRYL AND OTHER EUCRYL PREPARATIONS.** Hull: Major and Co.

Eucryl is a substance compounded of preparations derived from tar, eucalyptus and pine. It is oily in character, forming an emulsion with water, and emits the distinctive aromatic odour usually associated with preparations of pine. Its qualities as an antiseptic are sufficiently guaranteed by its composition. It is

when well diluted also an emollient to the skin, and is said to have the property of reducing the hardness of water. Bath Eucryl is exceedingly pleasant when added to the ordinary morning tub, and the deep inspiration which usually follows cold affusion causes the inhalation of its volatile ingredients. Added to water used for shaving purposes it seems to aid in softening the growth, at any rate it renders this sacrifice at the shrine of cleanliness less irksome than it usually is. It may also, with advantage, be added to the water used for cleaning the mouth and teeth, though it is right to add that a very few drops are sufficient to produce a pungency which is not altogether agreeable. Eucryl toilet soap is a pleasant article, carefully superfatted and devoid of free alkali. It emits the aromatic odour which characterises the preparation, and is probably possessed of considerable germicidal powers. Its proportion of Eucryl is 7 per cent. An ointment containing Eucryl combined with lanoline is also manufactured; pastilles for public speakers, a tooth powder, tooth paste and other toilet necessities and luxuries, all of which are carefully prepared and attractive looking. By no means the smallest claim which Eucryl has upon us is to be found in the very highly artistic manner in which the labels and etceteras are designed.

**IODALBACID.** Thomas Christy and Co., 25, Lime Street, E.C.

The substance which has been introduced under this rather cumbersome name is a combination of iodine and albumen. The trouble to which iodide of potassium so often gives rise when administered over a long period of time has always been thought to be due to the readiness with which it parts with its iodine in the system. Experiments made in the laboratory gave rise to the hope that by substituting iodalbacid these difficulties would be overcome. In actual practice this hope appears to have been fully realised. The new substance has been extensively employed in Germany by Zuelzer, Bernheimer, Briess and others in the treatment of tertiary syphilis, and all report most favourably, not only as to its curative power, but more especially as to its freedom from any tendency to produce iodism. Fasano, of Naples, in an article which appeared in the *Archivo Internazionale di Medicina e Chirurgia*, reports on its use in the following conditions: gout, obesity, sciatica, angina pectoris, tachycardia, aortic aneurysm, chronic rheumatism, goitre and syphilis. In most of these conditions, notably tertiary syphilis, aneurysm and sciatica, he has obtained most excellent results, and he states that in no single instance has the drug in his hands given rise to any vestige of iodism.

### Notes.

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DR. FREDERIC BAGSHAWE, of St. Leonards, the President-elect of the Society, has been confined to his room since May 9, in consequence of an attack of phlebitis. Our readers will be glad to hear that he is now convalescent, and expects shortly to resume his professional and municipal duties.

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DR. CARRON DE LA CARRIERE writes to inform us that the success of last year's Voyage d'études médicale has encouraged the promoters to organise another for this autumn. Last year the tour included La Bourboule, Mont Dore, Royat, Vichy, Saint Honoré, Pouques and the other watering places in the centre of France. This year the south-western district is to be visited ; beginning at Luchon in the Pyrenees, thence to Capveru, Bagnères de Bigorre, Argeles, Barèges, St. Sauveur, Cauterets, Pau, St. Christau, Eaux Bonnes, Eaux Chaudes, Salies de Béarn, Biarritz, Cambo, Hendaye, Dax, and finishing up at the end of a fortnight at Arcachon.

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THE tour will be under the direction of Dr. Landouzy, the Professor of Therapeutics at the Academy of Medicine at Paris, who will at each place explain the composition of the waters, their mode of application, and their indications. The tour will cost 300 francs, which includes everything, from the moment of arriving at Luchon to the time of departure from Arcachon. Tickets at half-price are to be issued from any station in France to Luchon, and from Arcachon on the return journey. The director of the tour is Dr. Carron de la Carrière, 2, Rue Lincoln, Paris, who states that he will be pleased to supply any information, and begs that his correspondents will (1) write legibly, especially their names, and (2) time their communications so as to permit him to complete his arrangements by August 15, after which date he cannot consider applications.

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THESE tours are of great value both to the medical men who take part in them and to the places visited. Balneology and climatology are not usually taught in the schools—the unfortunate student has already more than he can digest with comfort—so that these post-graduate lectures and demonstrations have a special attraction for those who are interested in the subjects of which they treat. It would do much to secure for our own health resorts some of the recognition which they undoubtedly merit if something of the same kind could be organised in this country with any prospect of success.

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IT is to be feared, however, that there is still too much apathy among the majority of our brethren to make any such scheme a success. The work of the Society in calling attention to the advantages of home stations has, we are glad to learn, been attended with very satisfactory results, especially to those places whose representatives have, either at the meetings of the Society or through the medium of the JOURNAL, done their part in explaining the class of cases which are suitable for treatment there. If more of the Fellows would recognise the wisdom of such a course the results would be even better than they are.

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IN the race for public favour it seems that the British resorts will always be left behind until their municipal authorities recognise the prime importance of affording amusement and entertainment for visitors. For a patient in need of balneary or climatic treatment nothing is so fatal as boredom. It leads to introspection and its attendant evils. What is required, here, is that which is supplied at every continental resort worthy the name—open-air cafés, promenades with a band which discourses music, a casino, and the like. Patients are nearly always accompanied by friends who are not invalids, and if the latter are bored the fact is reflected in their manner and acts prejudicially on the patient. It would be a sound thing if a committee consisting of delegates from our principal health resorts were to make a fortnight's tour in the season of similar resorts on the continent. They would return wiser men, with some power of appreciating that which has so often been urged upon them.

THE Chairs of Medicine in the two great Scottish Universities have been filled—neither of them sensationally. The selection of Dr. McCall Anderson, the Professor of Clinical Medicine, to succeed Sir William Gairdner, was looked upon as a foregone conclusion. Dr. Anderson will doubtless make a good systematic lecturer, and as a man of influence socially, ecclesiastically, and politically, he will be a worthy occupant of the chair. We cannot help feeling, however, that the interests of the school would have been better served by the appointment of some younger man to a post in which energy and the power of igniting enthusiasm are so very essential. The chair of Clinical Medicine thus vacated is almost certain to be filled by the appointment of Dr. James Finlayson, who has been one of the Physicians at the Western Infirmary for a great many years. The appointment will mark no new epoch.

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MR. BURDETT-COUTTS' letter to the *Times* and the debates on the subject in Parliament have excited a great deal of irresponsible and nonsensical chatter. While admiring the courage of any man who has an unpleasant thing to say and who says it simply and plainly, we think it would be interesting to know what Mr. Burdett-Coutts expected to find when he went to the seat of war. People are apt to forget that war is war, and that real war means terrible hardships and privations to those engaged in it. Moreover, the necessities of an advancing army are so imperative as to be absolutely merciless, and the needs of the sick and wounded must, under such conditions, always give place to the exigencies of the combatants. Under these circumstances it is idle to expect an army operating at such a tremendous distance from its base to have that care for the disabled which every one would like to see lavished upon them. Whether or not Mr. Burdett-Coutts gave these considerations their due weight it is impossible to say; in any case his criticisms, which are obviously honest and straightforward, will do some good if they result in forcing on the authorities the need which now exists for greater attention to the advice of the medical officers. Whatever the issue of the enquiry which is to take place, one thing is happily certain, and that is, that if bungling and unneces-

sary sufferings there have been, the cause will be found elsewhere than in carelessness or dereliction of duty on the part of the medical officers or nurses. It is a question of insufficiency, not inefficiency.

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APROPOS of South Africa ; we cull the following from a Daily. "During the past twenty-five years an annual examination has been held in our Colony of Natal by the educational authorities, open to all scholars and schools in the Colony. The Superintendent of Education has relieved the dryness of statistics in his reports by adding a few of youth's vagaries, which are of especial interest where their own country is concerned. As to the climate, one youth, who seems to be a keen observer of local climatic conditions, remarks : ' We have a very warm time of it, especially on Sundays.' From which it would seem that it is not only in Scotland that 'The Lord takes a fine day to Himself.' "

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THE case of Dowling v. Dods, in which the former, a nurse, obtained a verdict, and damages to the extent of £100, from the latter, a surgeon, is instructive in many ways. Mr. Dods, acting, so far as the evidence was able to show, in perfect good faith, expressed an opinion that the nurse's mental condition was not such as to render her fit to be trusted with the dispensing of prescriptions. Although the lady, in the witness-box, proclaimed her belief in things which are not generally considered credible by steady-going, work-a-day people, and made statements which lent some colour to the opinion that her views were decidedly peculiar, the jury found for her. The case is to go to appeal, where it is fervently to be hoped the verdict of this very eccentric jury will be set aside.

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MEDICAL men have learnt by bitter experience that the path of their duty to the public is already beset with the gravest dangers, and if the verdict in this case were allowed to go unchallenged, their own interests, their very existence even, would in future compel them to hold their peace, however loudly the public good demanded that they should speak.

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IN the aggregate, a large number of cases in which medical men are engaged come before the High Court, and in a great many of these it is difficult to avoid the conclusion that the investment of half a guinea a year on the part of the practitioner concerned would have saved all the trouble. Having regard to the risks to which every member of the profession is constantly exposed, it is truly astonishing to find how few of them avail themselves of the advantages of one or other of the organisations whose business is medical defence and medical protection. The offices of the Medical Defence Union are at 4, Trafalgar Square, London, W.C.; those of the London and Counties Medical Protection Society are at 12, New Court, Lincoln's Inn, W.C. By neglecting to become a member of one of the above every self-respecting practitioner does both himself and his family a serious injustice.

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THE first half year's publishing seems to be comprised of books which have some bearing upon South Africa, or military topics, or both. The output in the way of general literature has been exceedingly small, and this applies also to medical literature. Publishers, whose business it is to feel the pulse of the market, assert that it would be a dangerous experiment to launch even a strikingly good book at this moment, unless it dealt either with South Africa or China, and even the former as a subject is already at a discount. It is said that all the big publishers are holding back their ventures until the outlook improves.

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NOTHING, however, seems to stem the tide of enterprise in the sister branch of journalism. The establishment of a new halfpenny daily, on strictly non-political lines, called the *Daily Express*, is Messrs. Pearson's latest venture, and if the future numbers maintain the standard of those which have already appeared, there can be no doubt as to the ultimate success of the paper. There is one feature in it which will appeal to medical men, and that is the prominence given to, and the general accuracy of, news of a professional bearing. The entire absence of party politics is a real relief.

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A NEW sixpenny weekly entitled the *Traveller*, is announced for immediate publication by George Newnes, Ltd. It is to be devoted to the interests of those who travel in any degree; from the man who goes a trip round the world to him who goes to Buxton to take the waters. Motor-caring, bicycling, yachting, Alpine climbing, photography, health resorts—all these and everything else connected with travel, either at home or abroad, will be fully dealt with. The paper, which is to be profusely illustrated, will be on sale not only throughout the United Kingdom, but also in every travel and tourist centre in the world, through the agencies and depôts of Messrs. Thomas Cook and Son.

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WE have received a pamphlet, reprinted from the *Bristol Medico-Chirurgical Journal*, entitled "Notes on some Thermal, Hydrothermal, Electric and Hydro-electric Procedures and the Indications for their Use." The author is Dr. C. J. Whitby, the resident physician at Clifton Grand Spa, who has evidently carefully studied the subject of which he writes. The pamphlet is unassuming enough in appearance, but inasmuch as it contains a great deal of information about matters of importance to the Spa physician, it is well worthy of careful study.

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As the secretaries are frequently applied to by Fellows of the Society for the names of other Fellows resident in one or other of the various health resorts, it has been decided to publish a list of Fellows in each issue of the *Journal*.

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THE Treasurer and Secretaries would be very grateful to those Fellows who owe arrears of subscriptions, if they would charitably lighten the official labours and spare the Society expense of postage and stationery, by remitting their overdue subscriptions immediately after they have perused this appeal.

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IT has been suggested by different Fellows on various occasions since the foundation of the Society that one, at least, of the meetings during each session should be held at an inland or sea-shore health resort. The Council would like to get the views of the Fellows on this point, and would be pleased to receive expressions of opinion from those interested, so that the general



feeling of the Fellows may guide the Council in their decision as to the advisability of adopting the idea.

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FELLOWS are invited to suggest subjects for discussion during the ensuing session, and to offer papers to be read at meetings, or to be published in the Journal.

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THE following have been elected Honorary Vice-presidents of the Society : Dr. Vivian Poore, Dr. Robert Barnes, Sir Joseph Fayrer, Bart., Professor Clifford Allbutt and Sir Douglas Powell, Bart.

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IN the notice of Dr. George Herschell's book on "Constipation" which appeared in our last issue, the reviewer, we find, was in error in stating that the author, in his account of the phenomena of peristalsis, had omitted all mention of the longitudinal muscular fibres of the intestinal wall. The mistake appears to have arisen from a too limited survey of one particular passage, and we readily acknowledge that it should not have been made. We learn further that Dr. Herschell takes exception to the suggestion that the book was intended for the public rather than for the profession, and he informs us that this conclusion is altogether an erroneous one. It is scarcely necessary to say that the remark was not intended in any way to reflect upon Dr. Herschell's professional credit or reputation, but as he considers that it may be interpreted in this sense, we hasten to withdraw it, with a regret that it should have appeared.

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WE propose to have in this Journal what is sometimes, and for some curious reason, called a "Symposium" (strictly a drinking together) on the subject of the members of the Rheumatic Family, with special reference to their treatment by baths and climates. The subject is introduced in this issue by Dr. Symes Thompson and Dr. Wethered, and it will be continued in detail in the coming numbers by writers eminently qualified to deal with the subjects. Dr. Arthur Luff will discourse on Gout ; Dr. Solly, of Harrogate, will deal with Gonorrhœal and other

septic Rheumatisms ; Dr. Douglas Kerr, of Bath, will treat of Chronic Rheumatism ; Dr. Scanes Spicer, of Rheumatic Throat Affections ; Dr. Morgan Dockrell, of Rheumatic Skin Affections, and so on. Every trouble will be taken to render the Symposium an accurate record of the present state of our knowledge on the subject. Some of our Fellows have very special opportunities of forming opinions on many of the matters dealt with, and they are cordially invited to send us contributions, in the form of criticisms or otherwise, of the views expressed in the papers.

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THE Hon. Librarian, Dr. Morgan Dockrell, reports that the Library Committee has gone carefully through the list of books of which the Society became possessed under the will of the late Dr. Samuel Hyde. As many of these have no bearing upon Balneology or Climatology it was decided that they should be sold and the proceeds devoted to the purchase of works which have a bearing on the subject in which the Society is primarily interested. A list of those offered for sale can be had on application to the Hon. Librarian, at 9, Cavendish Square, W. Many of them are of quite recent date.

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THE Fellows will be glad to learn that Dr. Amos Beardsley, of Grange-over-Sands, has at length recovered from the tedious illness which had prevented his attention to professional work for the past few months.

## NAMES OF TOWNS WHERE FELLOWS RESIDE.

### ENGLAND.

ASHBY-DE-LA-ZOUCH. — Williams,  
Chas. R.

#### BATH.

Bannatyne, Gilbert A.  
Bayliss, R. A.  
Bowker, George.  
Cowan, Frederick.  
Ellis, W. McD.  
Kerr, J. G. Douglas.  
King, Preston.  
Lace, Frederick.  
Lowe, T. Pagan.  
Mackenzie, Alex. L.  
Walsh, Leslie H.  
Wohlmann, A.

BEXHILL-ON-SEA. — Wills, Joseph  
P. B.

BEXLEY HEATH. — Sunderland,  
Oliver.

BIRCHINGTON. — Harris, James S.

#### BIRMINGHAM.

Foster, Sir Walter (Hon.)  
Griffiths, Chas. Thos.

BLACKBURN. — Rhodes, T.

#### BLACKPOOL.

Kingsbury, Geo. C.  
Molloy, Leonard.

#### BOURNEMOUTH.

Alderson, F. H.  
Broadhurst, C. H.  
Gardner, Wm. Thomas.  
Greves, E. Hyla.  
Harsant, Joseph George.  
Hosker, J.  
Lys, Henry Crabham.

Marriner, W. H. L.  
Muspratt, Chas. Drummond.  
Nunn, Philip W. G.  
Pott, Francis H.  
Scott, Thos. B.  
Snow, William V.

BRADFORD. — Campbell, Henry  
Johnstone.

#### BRIGHTON.

Blaker, Walter C.  
Furner, Willoughby.  
Garrett, H. E.  
Goff, Bruce E.  
Griffin, Wm. Watson.  
Hobhouse, Edmund.

BOGNOR. — Rawlinson, Frederick J.

BRIXHAM. — Elliott, George B.

BURNHAM. — Berry, Frederick  
Charles.

#### BUXTON.

Armstrong, Wm.  
Bennet, R. O. Gifford.  
Bennet, Chas. J.  
Braithwaite, John.  
Hannah, William T.  
Lorimer, George.  
Thompson, G. H.

CAMBRIDGE. — Allbutt, Prof. Clif-  
ford (Hon.)

CAISTOR-ON-SEA. — Case, William.

#### CHELTENHAM.

Cardew, G. A.  
Lawrence, H. Cripps.  
Pruen, Septimus Tristram.

CLACTON-ON-SEA.—Nourse, C. M.  
Stuart.

CLEVEDON (Somerset).—Skinner,  
Stephen.

CLIFTON.  
Clarke, J. Michell.  
Whitby, Chas.

CROMER.  
Musgrave, C. B. Thos.

CROWBOROUGH.—Newell, Percy.

DEAL.—Lyddon, Richard.

DOVER.—Parsons, Charles.

DROITWICH.  
Corbett, Thomas.  
Cuthbertson, J. M.  
Foulds, Francis Henry.  
Jones, H. Shirley.  
Roden, Percy A.  
Wilkinson, John.

EASTBOURNE.  
Barnes, Robert.  
Daly, W. J.  
Habgood, Henry.  
Macqueen, Thomas.  
Roberts, Charles.  
Plant, James Robert.

FALMOUTH.  
Bullmore, W. King.  
Knuthsen, L. F. M.  
Young, Major L. Tarleton.

FELIXSTOWE.—Havell, E. G.

FINCHLEY.—Bangay, Richard.

FOLKESTONE.  
Barrett, W. P.  
Bateman, G. Marcus Yunge.  
Dodd, Percy.  
Eastes, Thomas.  
Latter, Cecil.  
Larking, Arthur E.  
Lewis, Percy George.

Tyson, W. J.  
Wainwright, Lennox.

FRIMLEY GREEN (Surrey).—Haviland, Alfred.

GORLESTON.—Gilmour, Graham-Percy.

GRANGE-OVER-SANDS.  
Beardsley, Amos.  
Beardsley, Richard Henry.

GREAT YARMOUTH. — Moxon, A.  
H.

HARROGATE.  
Bain, William.  
Black, J. Gordon.  
Gibson, Charles.  
Hobson, Lewis John.  
Hind, Harry.  
Hunt, Henry J.  
Mouillot, F. A.  
Myrtle, Andrew S.  
Myrtle, James A.  
Oliver, George.  
Ozanne, Frederick.  
Smith, Francis W.  
Solly, Ernest.  
Walker, A. W. Hinsley.  
Williams, Neville.

HASLEMERE.—Hutchinson, Roger  
Jackson.

HASTINGS.  
Inglis, John.  
Watson, George Trustram.

HERNE BAY. — Bowes, Charles  
Keswick.

HODDESDON.—Love, William.

HOGSTHORPE.—Spilsbury, Francis  
James.

HOYLAKE.—McAulay, Matthew.

HYTHE (Kent).—Hackney, John.

**ILFRACOMBE.**

Gardner, J. Twiname.  
Payne, William A.  
Toller, C. W. E.

**ILKLEY.**

Bampton, A. H.  
Johnstone, Thomas.

**LEAMINGTON.**

Eardley-Wilmot, R.  
Garrett, A. S. Wellesley.  
Thorne, Frederick.  
Thursfield, Thos. W.  
Wyer, Otho.

**LIMPLEY STOKE (Bath).—**Drake,  
Thos. Geo.

**LINCOLN.—**Lowe, Geo. May.

**LIVERPOOL. —**Bickersteth, Ed-  
ward Robert (Hon.)

**LONDON.**

Abraham, Phineas S.  
Achard, Alexander (Maryle-  
bone, W.)  
Allen, W. Hamilton (Stanmore).  
Ball, James Barry.  
Baynes, Donald.  
Bidwell, Leonard.  
Brown, F. Gordon.  
Brown, George.  
Bruce, J. Mitchell (Hon.)  
Burnet, Robert William.  
Campbell, Harry.  
Cantlie, James.  
Cathcart, George C.  
Clarke, Ernest.  
Chaldecott, John Henry (Hamp-  
stead, N.W.)  
Clippingdale, S. D. (Kensing-  
ton).  
Dockrell, Morgan.  
Dodsworth, Frederick C. (Chis-  
wick).  
Dowse, Thos. Stretch.  
Ewart, William.  
Fayrer, Sir Joseph, Bart. (Hon.)  
Felkin, Robert William.

Ferguson, G. Gunnis (West  
Hampstead).

Foster, Sir Walter (Hon.)

Freyer, P. Johnston.

Gage-Brown, Charles Herbert  
(Belgravia, S.W.)

Garrod, Sir Alfred (Hon.)

Gordon, H. Laing (Honor Oak,  
S.E.)

Harbord, Augustus (Blooms-  
bury, W.C.)

Hare, F. E.

Hedley, W. S.

Hillyer, William J. (Streatham,  
S.W.)

Houchin, Edmund King (Ilford,  
N.E.)

Jones, Montagu Handfield.

Johnston, George F.

Keetley, C. R. B.

Kingscote, Ernest.

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ASSOUAN (Egypt).—Canney, H. E. Leigh.



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**BALNEOLOGY: AN HISTORICAL SKETCH.**

BY THE LATE SAMUEL HYDE, M.D.

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[THE following article has a pathetic as well as a general interest. The late Dr. Samuel Hyde had for many years collected materials for writing a book on Balneology, and at the time of his much lamented death he had not only digested and arranged this material, but he had actually commenced the work. The subjoined article was to have been the first chapter in the book, in order to complete which he once expressed a fervent desire to be spared. The wish was, unfortunately for students of the subject, not to be fulfilled. The readers of the Journal will, however, have the advantage, from time to time, of perusing so much of what was written as is considered suitable for the purpose of publication in a periodical. This advantage they owe to Mrs. Hyde who has presented Dr. Sunderland with the MS. to do with as he thought fit.

L.B.D.

**BALNEOLOGY AND CLIMATOLOGY.]**

The department of medical science which is now commonly recognised by the title of *Balneology* comprises, strictly speaking, two subordinate branches, viz., *Hydrology*, which relates to the sources and chemical and physical characters of

waters, and *Hydrotherapy*, which deals with the medical uses of waters, both internally and externally.

The history of the hygienic and therapeutic use of water, whether obtained from springs of simple cold water or from so-called mineral springs, possessing special thermal or chemical properties, extends far back into the earliest records of the human race.

In ancient Persia and Chaldea, holy wells and baths formed important adjuncts to the sacred ceremonies of the temples. In India the rolling waters of the mighty Ganges inspired the dusky natives with hope of relief from disease and of lengthened days, whilst in Egypt, Pharaoh's subjects looked to the Nile as the great source of bodily strength and fecundity. Waters held sacred by the priests and peoples of those bygone ages were supposed to be presided over by special deities. Thus in ancient Greece, Hermes, Apollo, Hercules, Asklepios, and other gods, had temples dedicated to them in close proximity to baths and springs. Here the priests performed rites and ceremonies, offered sacrifices, and explained the cleansing and curative mysteries to the people.

The history of the healing art amongst the ancient Persians, Chaldeans, Egyptians, Hindoos, and Greeks, shows it, however, to have been mixed up with so much religious superstition and ignorance as to have no claim to be called a science. It was left to the immortal Hippocrates to inaugurate the era of true medical art. And it was also Hippocrates who, writing some 450 years before Christ, first gave to the world that foretaste of a knowledge of the curative effects of waters which was not altogether lacking in scientific accuracy. That he possessed a knowledge of the therapeutic uses of cold and warm water baths is certain, for he recommended cold douches to diseased joints, warm sprays of water to relieve insomnia, cold water affusions in syncope, and was acquainted with the cooling effects of warm water, and the warming properties of cold water when applied to the body.

The archæological researches of Dr. Schliemann, and others, during the past quarter of a century, have thrown much light on the early history of Greece, and the excavations and

exploration of the temples and shrines of Asklepios, the god of healing, at Epidauros and Athens, have yielded most interesting evidence of the state of medical knowledge in those early days.

Asklepios, who, according to Greek tradition, was the son of Apollo and Koronis, was born in the Hieron Valley, in the Argolic Peninsula. The Hieron, about six miles from Epidauros, was the chief seat of the worship of Asklepios. Here are found the remains of the Tholos or Taumela which Defrass and Lechat believe contained a well which was used as a drinking fountain or pump-room in which the sick partook of the healing spring. The Tholos was a circular building erected in the fourth century before Christ. Surrounding the outside was a Doric colonnade having a rich coloured cornice, whilst within was a circle of sixteen beautiful marble Corinthian columns, the wall and floor being also decorated with coloured marbles. This building is said to have been the most beautiful temple of all the temples the Greeks ever built. The valley of the Hieron contained many other remarkable buildings, amongst which was a large structure believed to have been used as the baths of Asklepios.

Dr. Richard Caton thus describes the routine, reception and treatment of the sick, who in these early times visited the temples of Asklepios :—

“The patient, on arriving, probably had an interview with the priest or other official, and arranged about his accommodation with one of the Hieromnemones, or other secular person. He performs certain rites, bathes in the sacred fountain, and offers sacrifices under the direction of the Pyrophorus ; the poor man gives his cake, the rich his sheep, or pig, or goat. When night comes he brings his bed-clothing into the abaton and reposes on his pallet, putting usually some small gift on the table or altar. The Nakoroi having come round to light the sacred lamps, the priest enters and recites evening prayers to the god, entreating divine help and divine enlightenment for all the sick assembled there ; he then collects the gifts which had been deposited on altars and tables ; later the Nakoroi enter, put out the lights, enjoin

silence, and command everyone to fall asleep and to hope for guiding visions from the god. The abaton was a lofty and airy sleeping chamber, its southern side being an open colonnade. It is singularly like the 'shelter balcony' or *liegehalle* now used in treating phthisis. According to the inscriptions the god frequently appeared in person or in visions, speaking to the sick man or woman concerning their ailments. Whether these visitations were merely hallucinations in individuals whose imagination had been excited, or whether some priest in the dim light enacted the part of Asklepios; whether the patient was put under the influence of opium or some other drug provocative of dreams, or whether, by some acoustic trick, the priests caused the sick to hear spoken words which they attributed to the deity, it is difficult now to say."

Dr. Caton then goes on to show how favourable were the conditions for producing restoration of health in patients suffering from mental or physical disease :—

"Many of the *malades imaginaires* who, to this day, are the support of the quack and the torment of the honest physician, doubtless visited Epidaurus. The priest would take such a person (as probably he took all suppliants) into the temple, and cause him to present himself before the image of the god; prayers, sacrifices, and rites of an impressive kind were then enacted. The man was caused to lay his hand solemnly and reverently on the altar, and then on the part affected; if there was really nothing the matter, he was claimed to be miraculously cured by the god, and doubtless his imagination was so impressed that he often himself believed in the cure.

"The patients spent the day in rest or exercise, as was most agreeable to them. It must be remembered that the precinct was as beautiful as the noblest works of Greek art could make it; moreover, large and lofty trees formed a shady grove, protecting from the sun heat, while the soft breezes and the sweet pure air of the mountains formed in themselves a potent agency for the restoration of health. The patient had much around him to please and interest—beautiful buildings, rich with sculpture and with colour, scores

of statuary figures and groups, representing Asklepios and other divinities or subjects from the old Greek mythology, in marble and bronze ; reliefs, busts, and full-length figures of noted priests and physicians, ex-votos, stelæ, and tablets recording the marvellous cures effected by the god, coloured bas-reliefs, encaustic paintings, shrines, exedrae, decorative vases and fountains, beautified and added interest to the precinct. Sheltered seats, arranged in semi-circles, of beautiful white marble, were so placed as to avoid sun or wind ; they were convenient for converse, or for listening to a reader or musician. Many shrines and chapels to subsidiary deities existed, as, for example, to Hygeia, Themis, the Egyptian Apollo, Helios, Selene, Epione (the wife of Asklepios), Zeus, Poseidon, Minerva, Hera, Demeter, the Eleusinian gods, Dikaïosunæ, Telesphorus, Lato, Hypnos, and others.

“Those of the sick who were not too ill would ascend the hill of Kynortion to visit the temple of Apollo, or climb the neighbouring hill of Titthion, or engage in the exercises of the gymnasium or the stadium ; if unable to participate in these more active pursuits they would become spectators of them. The plays in the theatre would often make half a day pass pleasantly. We know that both priest and patient were there constantly. A photograph of the priest’s seat in the Dionysiac Theatre, next to the seat of the priest of the muses, is given in fig. 3. Music, religious dances, processions, and festivals would vary the interest and occupations of the day. The studious man could occupy himself with manuscripts from the library, and, reposing in the shelter seats, would dream over history, plays, or poetry. The solemn rites of the temple, the sacrifices, the study of the multitudinous tablets, would all tend to a calm and hopeful condition of mind, eminently helpful to recovery from slight forms of illness, even though no direct medical treatment were pursued.”

Many ancient writers besides Hippocrates, including Celsus, Caelius Aurelianus, Galen and others, make reference to the beneficial effects of baths upon the human body. Caelius Aurelianus speaks of the drinking of purgative and chalybeate waters and the use of the sulphurous bath in Italy

in his day. Pliny and Seneca also refer to the use of baths. Horace is said to have used them under the direction of Musa, and it is recorded by Lampridius that Severus, who died in England in the year 213 *Anno Domini*, was treated for gout with cold baths.

The following quotation from "Pliny's Natural History," lib. 29, § v., shows the prevalence of cold bathing amongst the Romans : — "Hi regebant fata, quum repente civitatem Charmis ex eadem Massilia invasit, damnatis non solum prioribus medicis, verum et balineis ; frigidaque etiam hibernis algoribus lavari persuasit. Mersit ægros in lacus. Videbamus senes consulares usque in ostentationem rigentes."<sup>1</sup>

In the Pentateuch we have perhaps the earliest recorded discovery of hot springs,<sup>2</sup> and it is not improbable that these springs were resorted to as a remedy for disease by various nomadical tribes inhabiting Southern Palestine in those early days.

Wherever Ancient Rome extended her conquest we have still existing, not only on the continent of Europe, but in England, abundant evidence of the balneological practices of her people, and although, during the period commonly designated the Dark Ages, the practice of balneology as part of a medical treatment was probably little recognised, yet the practice of baptism by immersion was not unfrequently credited with miraculous powers in healing various diseases. Thus St. Augustine states in his "*De Civitate Dei*" lib. 22, that gout, palsy, tumours, &c., were cured by the Sacrament of Baptism in days when the Church practised baptism by immersion as well as by sprinkling. Even in our own country, the various "holy wells," as for example St. Winifred's, St. Mon-gah's, St. Anne's, and others, afford ample evidence of the use of water as a curative agency during those primitive times.

During the Middle Ages, and the period just preceding, this form of treatment was almost in total abeyance, and but

<sup>1</sup> The "Hi" are former quacks and doctors who appeared at Rome in Nero's time ; some of them from Marseilles, as was the Dr. Charmis mentioned in the quotation.—[ED.]

<sup>2</sup> Genesis, xxxvi. 24. See Revised Version.

for the advocacy of such enlightened minds as Caelius Aurelianus, Ætius, Avicenna, Rhazes, Alexander of Tralles, and Paulus Algina (the two latter practising physic during the first half of the sixth century), this dark period in European history would have been still further darkened by a total eclipse of not the least important branch of hygienic medicine. These are honoured names of physicians who recognised and advocated many of those principles and practices of hydrotherapy which had been so well enunciated by Hippocrates, Celsus, Galen, and others long before. In the thirteenth century there seems to have been a powerful reaction against the use of cold water, and warm water was substituted for cold even in religious ceremonies. Against this degenerate teaching a physician, bearing the name of one destined to immortal fame, advocated a return to the Hippocratic practice of cold baths. This was Savonarola, a professor of Ferrara and grandfather of the great Italian theologian, who flourished in the middle of the fifteenth century. The use of water dressings in surgery came into vogue in the middle of the sixteenth century, and we find Ambroise Paré, who was its chief advocate, writing, "I declare that it is not the words nor the cross which do it, but the water, which cleanses the wound and protects the injured limb from inflammation, and the contact of other fluids by its coldness." A bold and courageous declaration in days, when religious persecution was a weapon used with no sparing hand against men of scientific mind who dared to attribute natural processes of repair to other causes than mere "words" of incantation and religious symbols.

The practice of cold water-treatment as such was later in making progress in Germany than in Italy and France, although much faith was placed in the mystic properties of the many thermal springs of that country. As early as 1847, however, we find Gunther of Andernach strongly recommending the application of cold water to the skin by affusion as a valuable remedy for dryness of the skin and insomnia. It was Hermann von der Heyden, a Belgian, who about the year 1643 claimed to have discovered in the use of water a universal



remedy for all kinds of acute and chronic disease, and this anticipated by nearly sixty years the advocacy of similar methods and similar claims in England by another physician of considerable repute, who was perhaps the earliest member of the medical profession in England to investigate the alleged curative powers of cold springs. This was Sir John Floyer, a physician practising at Lichfield in Staffordshire. It was on October 6, 1702, that he addressed an essay "To the Right Worshipful the Royal College of Surgeons of London," in which he sought to obtain the approbation and sanction of that august body for the use of cold bathing as a therapeutic agent. For the carrying out of his plans Sir John fixed upon a spring called the "Unite's Well," which was situated on the top of a hill near Lichfield on land belonging to Sir James Simons. Here he erected two stone baths, about sixteen feet long by ten wide, which became known as St. Chad's Bath. The results of the treatment, which were published first about the year 1702, were very remarkable, and the work reached a fifth edition in 1722. Sir John Floyer may therefore be considered the real founder of modern English hydrotherapy. He not only prescribed the use of water in the form of baths, but also recommended copious and continued drinking of the water, and declared that those cases did best who combined the internal and external use of the water. It was even at this early date that men outside the medical profession began to take that active part in the advocacy of hydrotherapy which has so much hindered its scientific and legitimate progress. A work entitled "Febri-fugian Magnus; or Common Water the Best Cure for Fevers," written by an evangelical clergyman named Hancock, had an enormous circulation.

In 1724 Dr. Smith published a work bearing the title "The Curiosities of Common Water," and a few years later Dr. J. Sigmund Hahn and Dr. J. Gottfried (two brothers) of Breslau, published the results of their experiments under the title of "On the Healing Virtues of Cold Water," and this was followed in 1797 by a work bearing the title "Medical Reports on the Effects of Water, Cold and Warm, as a Remedy in

Fevers, and other Diseases," written by Dr. Currie of Liverpool. Currie's work seems to have been suggested by the reports of Dr. W. Wright, Director of the Military Hospital of Barbados, as to the successful treatment of an epidemic of typhus on board a ship at sea. Other early writers in the same field were Brandt of Stettin and Jürgensen of Kiel.

About the year 1830 Vincent Priessnitz, a farmer residing in Silesia, began to astonish the world by the wonderful results of his simple water treatment of disease, and in 1840 his system was introduced into England by Captain Claredge. Shortly afterwards Doctors Gully, Wilson, Johnson and other regular medical practitioners in England, America, and on the Continent adopted the principles of what had then come to be styled hydrotherapy. Institutions for the carrying out of the "Water Cure" in England were established in various localities, Malvern and Matlock acquiring widespread fame.

It was only to be expected that the simple and apparently safe treatment of all forms of disease by the exclusive use of water would be taken up by many unqualified practitioners, and it was due to this fact, and also to its frequent association with homœopathy by these persons that the practice, being viewed with suspicion by the profession at large, was scarcely recognised as a legitimate branch of therapeutics. This has always seemed to me unfortunate in the light of subsequent investigations, which have established for it an undoubted scientific basis which is now admitted generally by the profession throughout the world. In this we have another instance of the wisdom of applying to medical science and practice the maxim to "prove all things and hold fast to that which is good."

This brings us to the time when hydrotherapy entered upon a period of scientific investigation and practice more consonant with modern medical progress. A small work bearing the title "*Du Froid et ses Applications dans les Maladies*," by M. Tanchou, published in 1824 was the first serious attempt to explain the physiological action of cold water. After this, writer after writer, in France, Germany and England, published the results of observations which have

helped to place this branch of therapeutics on a physiological basis which, if not as satisfactory as we could wish, differs as much from the barbaric empiricism of the balneology of the past as does modern chemistry from the ignorant mysticism of ancient alchemy. Amongst the names of those who have contributed to this desirable result are Fischhof, of Luncany, in Hungary ; Bartel, of Kiel ; Beneke, of Marburg ; Jurgensen, Eulenburg, Winternitz, Rohrig, Leichtenstern, Krause, Liebermeister, Lauder Brunton, George Oliver, and many others.

Our observations so far have had reference almost solely to the use of simple water, generally cold, as an agent in the treatment of disease, and we must now say a few words about the history of the therapeutic uses of mineral springs possessing special thermal or chemical characters distinguishing them in a marked degree from simple spring-water. Dr. Prosser James, late lecturer on *Materia Medica* and Therapeutics at the London Hospital, has pointed out the earliest recorded discovery of thermal springs to be in Genesis, where it is stated, in the revised version, that Anah, one of the children of Zibeon, discovered certain hot springs in the Wilderness, and he has given good reasons for believing that these thermal springs were used at that early date for the relief of bodily suffering.

It is easy to conceive with what force the imagination of man would be stirred, in the early ages of the world's history, when brought into relation with springs of water issuing out of the earth possessing properties so diverse and so extraordinary. We can imagine the awe and superstitious feelings of our early ancestors on first observing the rising steam and feeling the high temperature of the hot springs of Bath, or the look of disgust and perplexity upon first tasting such springs as those of Wiesbaden, or smelling those of Harrogate and Aix-la-Chapelle. In those early times, and even up to the seventeenth century, men possessed no really scientific knowledge of the physical properties of the waters of such springs, and attributed their special temperatures, odours, and flavours to the most fanciful causes. Thermal properties were ascribed to the mystic agencies of spirits and their medicinal quali-

ties to the then known metals, such as gold and silver and other mineral substances, which were supposed to be present in solution without any chemical evidence whatsoever. No wonder, in view of such ignorance of the elementary facts of physical science, that men attributed to these springs supernatural properties and miraculous virtues in relation to their use in the cure of many forms of disease.

Chemistry as a positive science may be said to date only from the end of the eighteenth century, the discovery of oxygen by Priestly taking place in 1774, and that of the composition of water by Henry Cavendish in 1781, although sulphate of soda — as Glauber's Salts — carbonate of soda, chloride of calcium, chloride of magnesium, carbonic acid, and other chemical compounds were discovered between 1650 and 1750. After this last date considerable activity was manifested by different chemists and medical practitioners in the investigation of mineral waters both on the Continent and in this country. The reports of some of these early observations and experiments, however, read very curiously in the light of modern analyses. Gases in waters were often styled "permanent vapours," or received such names as "calcarious gas" and "hepatic gas." It was not until the present century was well advanced, and those chemical discoveries took place which have been the foundation of much of the glory characterising the Victorian era, and when quantitative as well as qualitative analysis had entered largely into the methods of the chemist, that the ingredients of natural mineral waters began to be determined with some amount of exactitude. In this connection the names of Berzelius and Struve deserve mention as the earliest to be associated with the scientific analysis of mineral waters. Since 1830 the investigation of the physical and chemical properties of these waters has made rapid strides. Nor has the physiological and therapeutical aspect of the subject been neglected. Great and fruitful have been the additions to our knowledge of these matters, and the widespread interest which is now taken in the subject of balneology by the medical profession in all countries is evidence of the great truths which are believed to underlie the principles of

the treatment of disease by the internal and external use of waters.

This branch of medical practice may have had its foundation amid the ignorance and superstition of bygone ages and may even in this day, so far as many of its claims go, be based largely upon empiricism. But what branch of medical practice has not had a similar origin and is not open to a like charge of empirical claims ?

If, in the following pages, appeal has to be made not infrequently to experience, let it be remembered that experience is often the most valuable evidence in favour of truth, and that pending the further development of scientific revelation we shall probably act wisely if we accept this testimony at least for what it is worth.

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### IMPROVED APPARATUS FOR ADMINISTERING THE INTRA-GASTRIC NEEDLE-BATH.

BY GEORGE HERSCHELL, M.D.LOND.

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NOT the least of the many valuable improvements in stomach medication which we owe to the genius of Professor Turck is the intra-gastric needle-bath. This may be described as the application to the interior of the stomach of fine jets of water under considerable pressure, and resembles the shampooing of the head with which we are all familiar. By the use of hot and cold water in alternation, a remarkable tonic effect is produced upon the muscular and secreting structures of the stomach ; moreover, adherent mucus is in this way far more easily dislodged than by ordinary lavage.

The object of this paper is to describe some improvements which I have devised in apparatus for administering this mode of treatment.

Any apparatus for giving an intra-gastric needle-bath must consist of three essential parts—a stomach-tube furnished with

a suitable perforated extremity, an apparatus for forcing water under pressure through the aforesaid tube, and a means of keeping the stomach practically empty whilst the operation is going on. The first of these we have provided for us in Turck's double tube, upon which it appears impossible to improve.

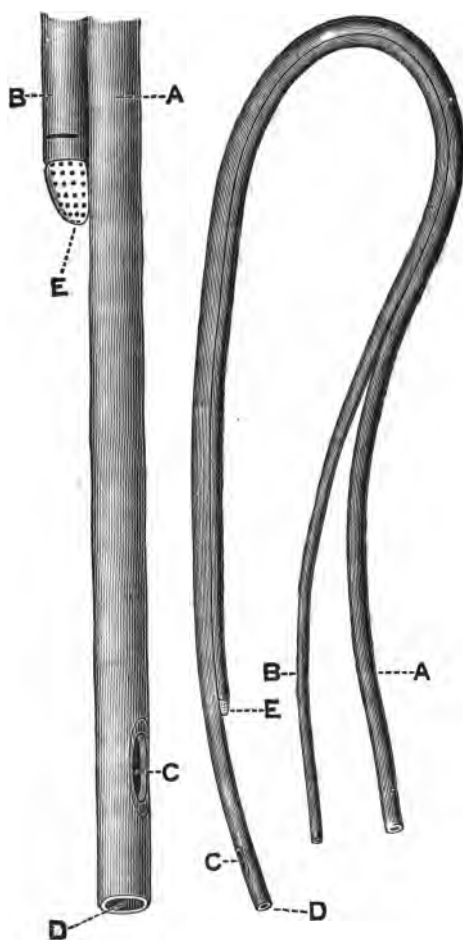


FIG. 1.

## 1.—THE STOMACH TUBE.

In fig. 1 is shown the end of the tube of its natural size and also a reduced sketch of the whole, to show its construction.

Turck's Double Stomach Tube, fig. 1, consists of an efferent tube A, shown at the left-hand side of the illustration, of its natural size, which is provided with a terminal eye D, and one at the side C. The afferent tube B is of smaller size and is cemented to A for the greater part of its length. It terminates in a conical perforated bulb shown at E. This bulb is of metal and is provided with a shoulder which enters the end of the rubber tube, to which it is further made fast by a silk thread shown in the sketch as a black line. The tube E is so arranged that it terminates about four inches from the end of A.

The afferent tube B is connected by a suitable mount with the apparatus containing the water under pressure and the efferent tube A with an exhausting arrangement to be presently described. I would here mention that I wish it to be distinctly understood that I do not claim to have made any improvement in Turck's double tube, which is practically perfect, but figure it here for the sake of those of my readers with whom it may not be familiar. Unfortunately it has to be procured either from Tiemann, of New York, or from Truax and Greene, Wabash Avenue, Chicago, as in this country (England) we are so far behind America and Germany in the intra-gastric treatment of stomach affections that it has not hitherto been worth any manufacturer's while to lay down the plant for making it.

2.—THE APPARATUS FOR FORCING WATER THROUGH THE  
TUBE WITH SUFFICIENT FORCE TO CAUSE IT TO ISSUE  
IN FINE JETS FROM THE PERFORATED BULB.

The apparatus used by Turck himself was constructed in the following manner: It consisted essentially of two glass wash-bottles such as are commonly used in a chemical laboratory. They were of thicker glass than usual, and were provided with rubber corks secured by a very ingenious fastening so that they would not fly out. These stoppers were each perforated with two holes through which passed respectively a long tube reaching to the bottom of the bottle and a short

one coming only an inch or so below the cork. The short tubes were connected by means of rubber tubes and a Y-piece with a pressure bulb. The long tubes were connected in the same manner with the afferent stomach-tube. The efferent stomach-tube was connected with an aspirating bottle. These bottles being filled with hot and cold water respectively, a few pressures of the bulb with the hand would produce sufficient atmospheric pressure in the bottles to cause their contents to issue from the perforated bulb in fine jets. By means of clips on the rubber tubes the contents of either bottle at will could be used.

I have attempted to improve this apparatus in two directions—that of portability with simplicity, and that of elaboration. Two distinct instruments have therefore been evolved, the one suitable for carrying from house to house for use in daily practice at the patient's home, and the other an instrument of greater precision, provided with thermometer and water gauges, designed for use in the consulting-room or hospital.

#### THE SIMPLE FORM OF APPARATUS.

This instrument was exhibited in the Section of Pharmacology at the Annual Meeting of the British Medical Association held at Portsmouth in 1899.

It consists of a metal stand holding two glass cylinders, A and B. In each of these is placed a Higginson syringe, C and D, the afferent tubes of which passing through specially designed spiral supports E and F on the handle G, are attached respectively to the limbs of a Y-piece H. From the third limb of this proceeds a rubber tube I, terminating in a conical nozzle J, of such a size as to enter the smaller stomach tube, K (the one terminating in the perforated ball (see fig. 1). The handle G is made to shut down into the apparatus for portability, but when in use is maintained at the proper height to keep the tubes of the Higginson syringes straight by a pin L, which enters a hole in the stand. The nozzle J is corrugated so as not to slip out of the rubber tube, and the free tubes of



the syringes are best provided with adhesive disks which hold them tight to the bottom of the glass cylinders.

The central rod of the metal stand is graduated in ozs., so that an idea can be formed as to the amount of fluid which is being introduced into the stomach of the patient.

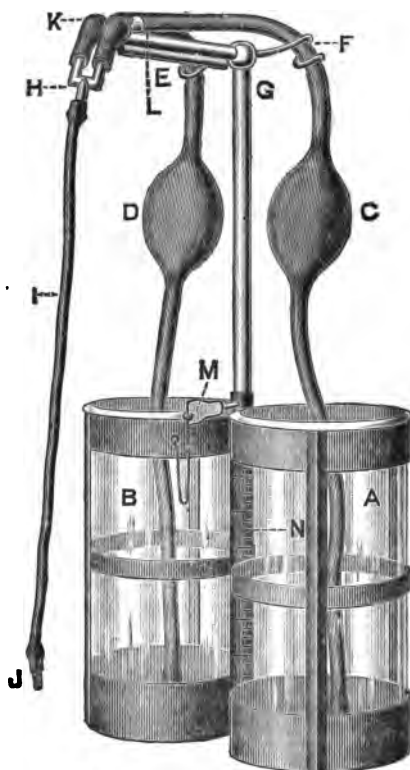


FIG. 2.

In using the apparatus, hot and cold water are placed in A and B respectively. The apparatus is placed upon a table at a convenient height opposite to the patient who sits upright in a chair. The double stomach tube is now passed into the stomach of the patient, and the conical mount J inserted into the proper tube. The other tube is to be connected with the evacuating apparatus to be presently described. If pressure be now made upon the bulbs C and D alternately, jets of hot and

cold water respectively will be forced out into the stomach of the patient. In practice it is convenient to send in one quarter of one cylinder before proceeding to the next. The patient will thus get eight alternations of hot and cold water during the *séance*. In this form of apparatus clips or valves upon the tubes are quite unnecessary, as from the construction of the Higginson syringe backward flow is impossible, and the water is only proceeding from the one bulb which is being actuated.

(This apparatus is made by Bailey & Son, 38, Oxford Street, London.)

#### THE MORE COMPLICATED FORM OF APPARATUS.

This form of apparatus is not very portable, as it is worked by means of a tank or reservoir of compressed air, and is suitable only for use in a consulting room. An attempt has been made to render it as perfect an instrument of precision as possible. Very early in my experiment in the use of compressed air to actuate the spray I found that glass bottles had to be abandoned, as they were apt to burst under the pressure required to produce a sufficiently forcible needle-douche. At first sight this would appear rather a paradox, as by simple pressure of the bulb of the Higginson syringe in the simple form of the apparatus first described (fig. 2) we are able to produce quite a strong douche. The explanation lies in the fact that we are exercising much more force when squeezing with the hand than we are aware of, and are acting directly upon the water with which the bulb is fitted. Moreover, as measured by the dynamometer an average grip varies from 90 to 120 lbs. Therefore, as about ten to fourteen square inches is required in a reservoir to produce a proper spray, metal receptacles are preferable to glass.

Another point also arose, and until this was surmounted no douche worked by a tank of compressed air could safely be used to the human stomach. It was this: suppose you have a metal wash-bottle connected with a reservoir containing air under a pressure of say 20 lbs. to the inch. The water will be driven out through a Turck's tube in the form of a needle-

douche into the stomach of the patient. But as soon as all the water is exhausted, the stomach of the patient will be suddenly filled with air under a pressure of 20 lbs. to the square inch, and serious damage will ensue. *And no amount of watchfulness would prevent this happening by accident now and then.* This difficulty was overcome in a very simple manner by fixing to the lower end of the long tube in the bottle a ball valve similar to those in ordinary water-cisterns. This will automatically

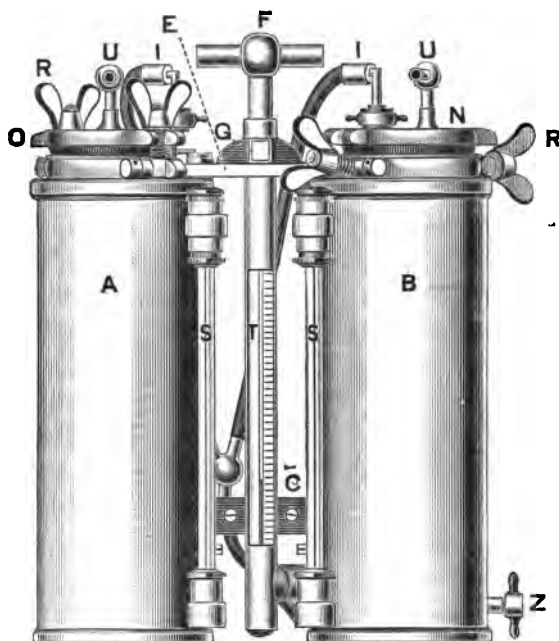


FIG. 3.

shut off the outward flow of liquid when it has fallen to a certain depth and thus absolutely prevent any air from entering the stomach. This simple contrivance, I believe for the first time in the history of medicine, renders it safe and possible to use considerable pressure of air in an apparatus for washing out the stomach.

The complete apparatus is shown in detail in figs. 3, 4, 5, 6, and 7. Fig. 3 represents a front view, the square bar carrying the tap having been removed. Fig. 4 shows a back view

of the same. Fig. 5 is especially intended to demonstrate the method of fastening the plugs into the cylinders by hinged winged screws. In fig. 6 you look at the apparatus from

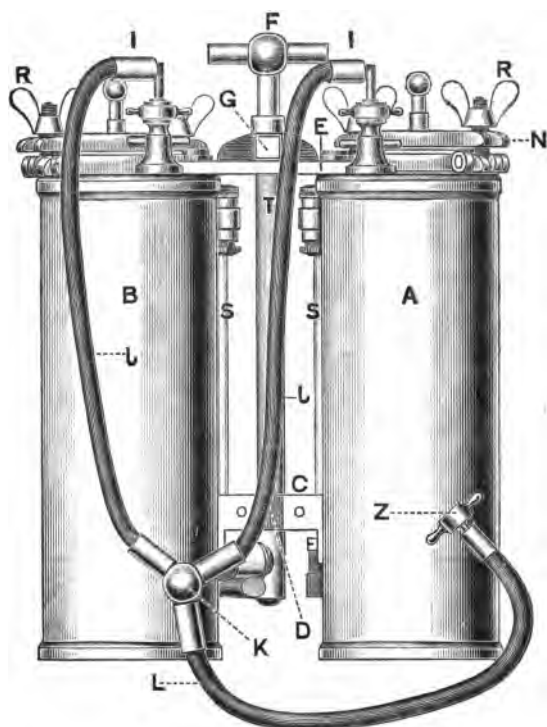


FIG. 4.

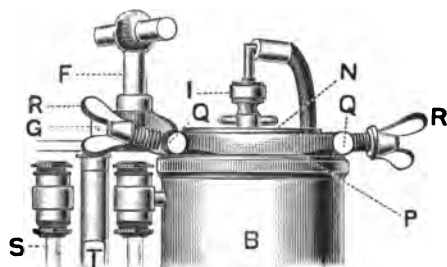


FIG. 5.

above ; it is here shown set up ready for use with the rubber tubes connecting the cylinders with the two-way tap *in situ*. Fig. 7 shows the mechanism of the floating ball-cock within

the cylinder. The numbering of the different parts in these figures has been made identical for convenience of reference.

The metal cylinders A and B are 13 inches in circumference, and 12 inches in height, and are connected rigidly together by metal plates at C and E in the following manner. Each cylinder has brazed to it a metal plate, and these are screwed upon a plate of vulcanite fibre shown at D (fig. 4).

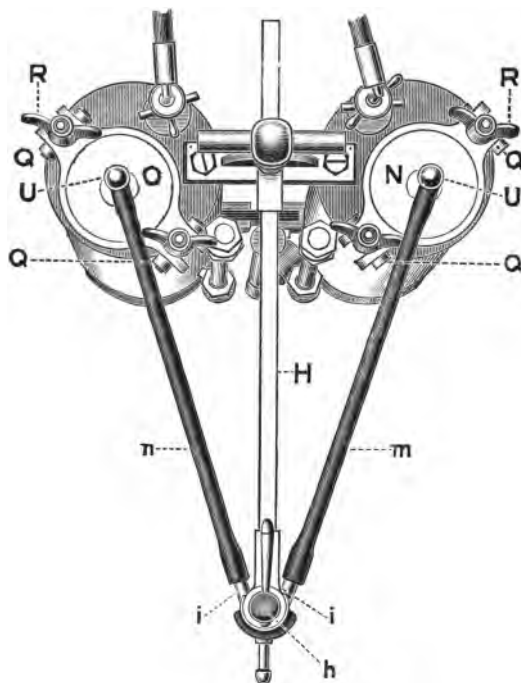


FIG. 6.

The cylinders are thus insulated from each other and heat cannot pass across the vulcanite plate.

The upper plate shown at E is insulated in like manner and carries a handle, F, by which the whole apparatus can be carried from one place to another. The plate E carries upon its upper surface a square socket, G, to receive a square bar shown at H in fig. 6, which acts as a support for the two-way tap (fig. 6). The upper wall of the socket G carries a handle,

F, by which the whole apparatus can be lifted. This handle has also another function, for it is capable of rotation, and if rotated a half turn to the right it will be screwed down into the lumen of the socket G and thus will firmly fix the bar H. Both cylinders A and N are provided with water gauges S, S, and in addition the cylinder B, which is designed to be filled with hot water, communicates with a thermometer, T.

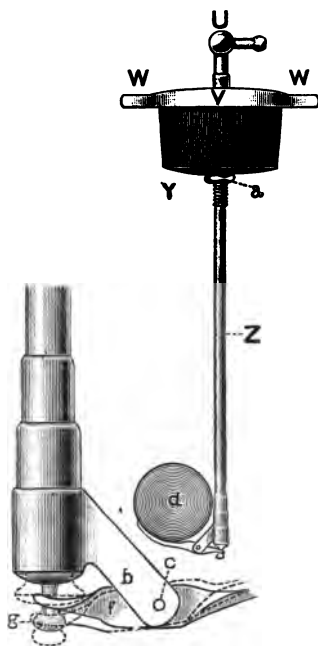


FIG. 7.

The major part of the top of each cylinder is occupied by an orifice 3 inches in diameter surrounded by a lipped flange  $\frac{3}{4}$  inch in height. These orifices are closed by rubber plugs, N, to be presently described. These orifices are not centrally situated, but nearer the front, so as to leave a space behind from which arises the mounts, I and I, for the attachment of the rubber tubes J and J which proceed from the reservoir of compressed air.

The rubber plug is shown in detail in fig. 7. Through its centre passes a tube Z which is soldered to the upper plate, V,

and the rubber plug is held securely between this and a lower plate, Y, by the nut *a*. The lower end of the tube Z carries a valve made on the principle of the ball cock used in cisterns. This valve is designed to prevent either of the cylinders being completely emptied of water, and, as we shall presently see, is a very necessary part of the apparatus. The upper plate W carries on each side a metal fork. The method by which the plugs are securely fastened into the orifices of the cylinders is as follows:—Round the lipped flange which surrounds the orifice is fastened a collar which carries at each side a hinged screw, upon which travels a winged fly nut, R R. These are well shown in fig. 5, which represents the top of one cylinder with the plug withdrawn. Upon the plug being inserted these screws are raised and passed into the forks, W W. The screws R R being well screwed home, the plug is securely fixed in the orifice of the cylinder, the upper end of the tube Z which projects through the rubber plug X is bent at right angles in order that it may be connected by a rubber tube with one of the limbs, *i* (fig. 6), of the two-way tap *h*.

The apparatus is prepared for use as follows: First of all the tank or reservoir, which is the ordinary one in common use in America, is pumped sufficiently full of compressed air. It is thus connected by the mount Z (fig. 4) with the tubes leading to the cylinders. The cylinder A is then filled with cold and the cylinder B with hot water. The rubber plugs are inserted and firmly secured by the screws R R. The tap *h* is slipped on to the end of the square rod H and connected by rubber tubes with the mounts U and U respectively. Upon the third limb of the two-way tap is attached a rubber tube provided with a metal conical mount of proper size to engage the mouth of the smaller of the double stomach-tubes. Care must be taken that all joints are firmly screwed home and that there are proper leather washers in all the union joints, and that the rubber tubes *m m* are firmly tied with thread to their respective mounts. If the handle of the tap *h* be placed in the middle position when nothing can pass through it, the valve of the reservoir of compressed air may now be opened and some of the compressed air

be allowed to pass into the cylinders. If the handle of the tap *h* be turned towards the cylinder A, cold water, and if towards B hot water, will be forced through the stomach-tube and will issue as a fine jet from the perforated nozzle at its extremity.

Before leaving this apparatus I would again draw attention to the ball valve *d* at the lower extremity of the tube Z (fig. 7). *It is this device alone which enables an apparatus of this construction to be used with any degree of safety.* Without it there would be a constant danger of doing serious harm to the patient. It is obvious that since a pressure of perhaps 10 lbs. to the square inch is necessary to produce a sufficiently forcible needle-bath, as soon as a cylinder became quite empty, the compressed air in it would at once rush up the tube Z out of the cock U through the tube *m* and into the stomach of the patient with possible disastrous results. This is entirely obviated by the cock attached to the lower end of the tube Z. It consists of an aluminium barrel *d* with rounded edges which is carried at the distal extremity of a small arm pivoted at *c* on to a lug *b* rigidly attached to the lower end of Z. The barrel is suitably weighted with shot. The proximal extremity of this arm is forked, and engages the neck of a stud *g* attached to a conical valve designed to fill up the lower end of the tube Z. As long as a little water remains in the reservoir the barrel will float and thus hold the valve open, but as soon as it sinks below a certain level the barrel will sink with the water and close the end of the tube Z, thus preventing the reservoir from ever becoming quite empty. The range of movement of *d* is limited as it comes in contact with the tube Z when it has risen to its full extent, so that the action of closing the valve is practically instantaneous. The apparatus was constructed for me by the Pneumochemic Company, Cincinnati, Ohio, U.S.A.

### 3.—THE METHOD OF EMPTYING THE STOMACH.

In order that the stomach spray needle-bath may have effectual access to the stomach walls it is necessary that that viscus be kept nearly empty. This is best effected by sypho-



nage, but a special apparatus must be employed, as one must be able to start the syphon action going without delay as often as required during the operation.

In my own practice I use a device which was suggested to me by Turck's well-known aspirating bottle.

Upon the floor I have standing a large three-necked Wolff's bottle, each neck being closed with a perforated cork. Through one of these passes a long metal tube which reaches nearly to the bottom. The upper end of this tube which projects above the cork is attached by a length of rubber tube with the efferent stomach-tube. Through the second cork passes a short length of tube which carries on its upper extremity an exhausting bulb, that is to say, a rubber bulb which exhausts when it is worked. This is exactly similar to the bulb on a Higginson syringe working backwards. Through the cork in the third neck passes a short tube which carries at its upper extremity a tap.

A few compressions of the exhausting bulb attached to the Wolff's bottle under the table will so rarefy the air in it that fluid from the stomach will commence to flow into it. As soon as this occurs the tap connected with the tube passing through the third neck may be opened, air will enter the bottle, and the flow will continue by syphonic action alone until the stomach is empty. We thus avoid the possibility of injuring the stomach wall by too strong suction.

## ON THE MANIFESTATIONS OF GOUT IN THE THROAT AND NOSE.

BY SCANES SPICER, M.D.LOND., B.SC.

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THERE is an old medical adage, that the diagnosis of gout is the refuge of the destitute, and perhaps the quip is excusable, as no two authorities seem agreed as to what is the essential nature of the disorder, or what is and what is not gout. My own view coincides with those who think that "gout" means much more than the retention and deposition of *urates*, or the overworking and giving out of the renal epithelium. Even those authorities that hold the restricted view as to the essential nature of gout, yet include in their works on the disease numerous affections and symptoms, in which there is no clinical evidence of any such deficient elimination by the kidney or deposit of urates in the tissues. They describe these conditions variously as "irregular" or "suppressed" gout, or as "goutiness," or as "pre-gouty" affections. My esteemed colleague, Dr. A. P. Luff ("Gout, its Pathology and Treatment," p. 115), expresses the belief that "all forms of irregular gout are due to the precipitation, in the crystalline form, of sodium biurate in the organ or tissue affected." This position is difficult to prove, and as far as the larynx is concerned, at variance with the evidence available. Thus Dr. Norman Moore states, as a result of a special investigation of eighty cases of gout, in only seven were abnormalities in the larynx found, and in no case is the presence of urate of sodium noted. Doubtless, "regular" gout is characterised by renal inadequacy and consequent uratic accumulation, but it appears to me that this is only one of the terminal or later results of a usually long-standing constitutional condition, which need not, and in the majority of cases does not, go on to renal disease or "regular" gout. The exact definition of this constitutional condition, or gout in the enlarged sense,

is a matter of some difficulty, though clinically it is easily recognisable. Its subjects are usually those who lead a sedentary life, who eat a great deal more animal food, and a great deal oftener, and drink much more than their lack of physical exercise renders necessary or desirable. Hence they develop, sooner or later, a condition of hyper-alimentation, with deficient combustion of the food stuffs in the muscles, and deficient elimination of waste products of tissue vitality by all the emunctories, bowels, kidneys, skin and lungs. Added to this, these patients often indulge to excess—physiologically speaking—in alcohol, which further tends to inhibit tissue change. This state is more usually acquired, though sometimes there is a distinct hereditary tendency.

Gouty subjects usually present the following combination of symptoms :—gastric, hepatic and abdominal torpor or sluggishness, characterised by discomfort and lassitude after meals, flatulent distension, eructations and costiveness ; tongue coated at back in morning, bad breath and variable appetite ; portal congestion, evidenced by piles and irritation about anus and in perinæum ; urine often scanty, of high specific gravity, and copious deposit of red urates ; neurotic, irritable, depressed and sluggish, with frequent headaches and sallowness of conjunctiva, or even complexion generally. Blepharospasm and *muscæ volitantes* are not infrequent, and the reeded nail is common. These conditions are not permanently improved by drugs as long as the sufferers keep up their faulty mode of life and nutrition, and go on from year's end to year's end, sometimes culminating in an attack of "regular" gout. The victims feel themselves unable to break their faulty habits unless their conditions of life are totally changed. This is best done by recourse to a suitable spa, when the condition yields rapidly and with some completeness on a vigorous return to a physiological life. There was clearly beforehand a defective adjustment between the intake and elimination of the metabolic products of digestion and tissue life, which latter accumulated and hampered the vitality of the cells and produced the phenomena. On regulating the intake, and promoting proper elimination by the bowels, kidneys, skin

and lungs, as is done by the various methods in use at spas, the adjustment is corrected, and the patient is sent away to put into practice the hygienic lessons he has had instilled into him by demonstration on his own person, free from his ailments, and perhaps to ward off for ever the onset of "regular" gout.

It has been said that affections of the throat and nose should not be diagnosed as gouty unless positive evidence is afforded either (1) by the presence of definite gouty manifestations elsewhere ; or (2) by metastasis between anginal and arthritic attacks ; or (3) unless there is definite uratic deposit in the organ or tissue affected ; or (4) unless the attacks resist all other treatment except that with colchicum and iodides. Allowing that such evidence, especially in combination, offers a strong presumption in favour of a doubtful affection being a gouty manifestation, it cannot be regarded as conclusive unless we assume that gouty patients are exempt from the other innumerable influences causing inflammatory affections (which is the reverse of the fact) and unless we are further prepared to accept the postulate that gout is the only condition relieved by colchicum and iodides—a gratuitous assumption which can hardly be maintained by the most ardent believer in specifics. Several authors have described affections of the throat and nose as gouty, basing their diagnosis on external evidences as indicated above, and before considering another class of cases, almost always destitute of the above accessory characters, it may be expedient to refer to some of the former.

Sir Morell Mackenzie ("Diseases of the Throat and Nose," vol. i., p. 48) states : "I have met with several well marked instances" (of angina dependent on gout). "In one case a gentleman who frequently suffered from attacks of angina became subject to gout and was never again attacked with inflammation of the throat. In another case, the patient was suffering from acute pharyngitis when the symptoms suddenly disappeared and an acute attack of gout developed in the great toe of the right foot ; after three days the gouty inflammation of the toe disappeared and acute hyperæmia of the pharynx supervened."

Sir Dyce Duckworth ("Treatise on Gout") quotes De Mussy's case of granular pharyngitis, in which masses of concretion consisting of carbonate and urate of lime were discharged several times daily from the mucous follicles ; and also Virchow's observation of a small gouty concretion in the posterior part of a vocal cord.

Mr. Lennox Browne ("The Throat and Nose," p. 316), speaking of the ætiology of perichondritis of the larynx, states, "there is very frequently a distinct personal experience of gouty attacks in other portions of the body, with evidence of deposit in one or more joints of the extremities." And again of a lady aged 62, supposed to be the subject of malignant stricture, "She has recently had an attack of gouty iritis ; she had chalky deposit in the distal phalangeal articulation of each little finger and in the auricular cartilages and local manifestations in the larynx were gradually giving evidence of undoubted pericardial change. The later history confirmed the diagnosis."

Sir Morell Mackenzie (*Journ. of Laryng.*, vol. iii.) also reported four cases of gout of the throat in patients who showed other unequivocal signs of gout. (1) A case of acute œdema of the uvula disappearing upon sudden development of gouty inflammation of big toe ; (2) a chronic inflammatory condition of the posterior faucial pillars associated with gout in the hands, cured by colchicum purgatives and alkalis ; (3) a gouty deposit about the crico-arytenoid articulation (bilateral) causing permanent dysphonia, deposit in lobule of left ear ; (4) a gouty inflammation producing fungous ulceration of the left ventricular band, resembling cancer, in opinion both of Mackenzie and Krishaber, but cured by a course at Wiesbaden.

Dr. de Havilland Hall (Lettsomian Lectures, *Proc. of Med. Soc. of Lond.*, vol. xx., p. 175) quotes a case of M. Vaton : "Called to a patient suffering from an urgent attack of dyspnœa with enormous œdematous swelling of the uvula, soft palate and fauces. The patient was the subject of gravel with articular deformities and tophi, and had had gouty attacks previously. The diagnosis of gouty angina was

accordingly made" . . . "As suffocation persisted the uvula was scarified and leeches were applied to it. The swelling suddenly disappeared some days afterwards, simultaneously with the big toe being attacked with severe gout."

Such cases as these will be generally accepted as manifestations of gout in the throat, and in all probability correctly so. But these cases are so comparatively rare that many observers of wide clinical experience state they have never met with a similar one. Is it not highly improbable, in view of the frequency of gout, and its influence on all the other organs of the body, that the throat and nose—one of the most vulnerable and frequently affected of the body tracts in other diseases—should show signs of the baneful influence of the gouty poison so seldom? Is it not rather more probable that gout shows itself here (independent of arthritic attacks, metastasis and uratic deposits) as an inflammatory condition not generally recognised as gouty?

Sir Dyce Duckworth ("Treatise on Gout") is apparently of this opinion. He states, "the gouty throat is like no other. The pillars of the fauces, especially the posterior pair, the velum and the uvula are very red and glazed. They appear as if freshly brushed with glycerine. Some dilated venules may often be seen coursing over parts of the membrane. . . . The surface of the pharynx is coarse, with red, glairy prominences upon it, and depressions here and there, covered with greyish, slightly adherent patches of mucus, and it has sometimes enlarged venules upon it."

Harrison Allen (*Sajous' Annual*, 1889, vol. iv. E. 10), describes as gouty a variety of sore throat which, while independent of metastasis, is found in gouty subjects, and which yields only to remedies for gout. It generally occurs in middle aged subjects where heredity is usually to be traced. It occurs among those subject to neuralgic forms of irregular gout, especially in the viscera; or in persons of gouty habit, who are careless of their diet.

Thorner ("Burnett's System," vol. ii., p. 273), considers pain in the throat and intense hyperæmia as the principal symptoms of the gouty sore throat.

My own view is that gout usually manifests itself in the throat as a very chronic catarrh, with frequent subacute exacerbations. The catarrh is characterised by a dull brick-red or purplish coloration, with marked general engorgement, and dilated veins are seen in various positions. The mucous membrane is rough, thickened, often granular and sometimes glazed. These changes are seen on the velum palati, the faucial pillars (especially the posterior) and the posterior pharyngeal wall. The tonsils are also abnormally red, enlarged and harder than natural, but do not usually project much into the fauces. The uvula often shares in the hypertrophic condition, and is sometimes much elongated and oedematous, while the soft palate, as a whole, is relaxed and paretic. Behind the posterior pillars and parallel to them, there are often rough, red, fleshy bands, running from above downwards.

There are often large varicose veins at the base of the tongue, with clusters of little spheroidal dilatations on them, together with general engorgement and hypersecretion, while the adenoid tissue of the lingual tonsils is hypertrophied to form hard, rough masses.

The epiglottis, ary-epiglottic folds and posterior half of the ventricular bands, show a purple congestion, which is also seen on the posterior wall of the larynx, where the mucous membrane is often thrown into corrugated folds. The vocal cords themselves share in the hyperæmia; their surface may be dull and opaque instead of glistening, or a red, dry glaze may be substituted for the natural pearly lustre. Frequently a rough, warty condition over the vocal processes is seen on one side, forming a convex nipple fitting into a depression on the opposite side (pachydermia).

Symptomatically this condition of throat is characterised by a very marked increase of irritability and hyperæsthesia. In the pharynx and larynx, sensations of itching, tickling, burning, scraping and stabbing are common, and retching (especially in the morning when dressing), associated with paroxysmal cough; and profuse discharge of clear, frothy, tenacious mucus occurs more or less regularly for months or

years. There are frequent recurrences of sore throat under the slightest provocation, with follicular angina and quinsy at times. There is a chronic huskiness rather than hoarseness, and a tickling irritation of the larynx, leading to constant hemming and dry hacking cough. This cough may be attended with the extrusion of a small pellet of clear, thick, viscid mucus. So irritable is the throat in some cases that the patient begins to retch violently on opening the mouth, and laryngoscopy is impracticable. Small hæmoptyses, from rupture of the little globular varices are not uncommon, but are not of any great import. During the subacute exacerbations the larynx is the seat of great discomfort and soreness, the current of inspired air is unduly perceived, nocturnal spasm of the larynx (little doubt excited by buccal respiration and dryness of the parts), and typical attacks of laryngeal vertigo, are not at all uncommon.

This complex clinical picture of gout in the throat may be quite uncomplicated by structural disorders of the nose and upper respiratory tract, or by any other disease of the area; though there can be little doubt that the gouty element is far more often superadded on to affections due mainly to other conditions, and modifying the course and manifestations of the latter, as will be referred to again directly.

In the nose gout is manifested mainly by a chronic rhinitis of the hypertrophic type. The mucous membrane is dull red, thickened and roughened, the tissues covering the inferior turbinated bones and septum being especially affected. Erectile tumefaction of the membrane causing recurrent more or less transient obstruction, takes place on any change of temperature, weather, or bodily position. Thus the nose blocks up at night on lying down, or the obstruction changes from side to side according to the side one lies on, and that independent of anything that would ordinarily be considered as a "cold." Occasionally in gouty subjects this takes place quite independent of the existence of any organic or structural affection of the nose, though more usually the latter is present and assists in producing the morbid congestion and irritability. Further, the patient is prone to paroxysms



of sneezing on the slightest provocation and to tickling paræsthesia in the nose and naso-pharynx. There is also a tendency to chronic rhinorrhœa and to "drip," which often leads to an irritated condition of the vestibule, to a recurrent folliculitis of the hair sacs and glands, and to furunculosis of the nasal vestibule. Not infrequently in these subjects the chronic congestion of the vestibule leads to thickening, stiffening and overgrowth of the individual hairs. Subjects of gouty rhinitis are also liable to inflammatory affections of the accessory sinuses of the catarrhal type, though not infrequently there is pyococcal invasion and for a time pus is discharged. These purulent sinusites usually pass off without any special treatment, but occasionally form the commencement of a chronic fetid empyema of the ethmoidal, frontal, sphenoidal, or maxillary sinuses. At other times the hypertrophic rhinitis of the gouty person leads to occlusion of the orifice of these sinuses, the contained air is absorbed, and a catarrhal inflammation is excited in the sinuses which leads to so-called gouty headaches, brow agues and neuralgias. This is especially the case with those headaches which come on regularly at a given hour every day. After a varying duration, these headaches will pass off, the nasal tumefaction having subsided and taken on the day-condition, the sinus orifice opened, and the sinus gets re-ventilated. This view is confirmed by the fact that free cocainisation, followed by intubation of the sinus affected, will often cause the headache to disappear at once. These cases, of course, should not be confused with those due to distension of the sinuses with pus, in which there is often a headache coming on at a fixed hour every day as the sinus gets over-distended and is then relieved by the sudden discharge of pus.

One of the commonest results of gouty rhinitis is the habit of mouth-breathing and snoring—indirectly, of course—through the nocturnal erectile obstruction. This by no means implies that goutiness is the sole, or principal, or commonest cause of nasal obstruction, mouth-breathing, or snoring—indeed, the reverse is the case; but it is a common cause.

Occasionally tophuli are found in the skin of the nose, and dilated venules on the tip are sometimes associated with the above nasal and other general signs of gout.

Post-nasal catarrh, attended with the hawking out of thick mucus from the naso-pharynx on rising in the morning; deadness of voice and nasal character of intonation; and also impaired clearness of articulation, are not uncommon.

Epistaxis not infrequently occurs, but it is probably accidental, though favoured by the gouty congestion of the mucous membranes.

The gouty nose and throat are frequently seen associated with Eustachian salpingitis and middle ear catarrh, with all their train of deafness, tinnitus and giddiness, in addition to such minor troubles as stuffiness and fulness in the ears, dry catarrh, deficiency and accumulation of cerumen and congestion of the drum, external auditory meatus and furunculosis. Though I am not able to adduce statistical evidence, a wide experience has led me to conclude that the gouty factor in these ear troubles is a most important one, and should always come up for consideration in any given case.

Subjects of gouty nose and throat catch cold on the slightest provocation. It is not improbable that there is a gouty congestion of their vasomotor nerves in the mucous membranes, these nerves being in such a condition of irritable weakness that even slight peripheral impulses are conveyed to them as dilation waves that initiate a fresh acute congestion of the membrane.

A very characteristic feature of gouty affections of the nose and throat is that the local application of solutions of cocaine give comparatively little or no relief (or only a very temporary one) in reducing the symptoms of gouty catarrh; in fact, cocaine often increases the irritability and brings on sneezing, drip, or retching, as the case may be. The arterioles seem unaffected by the usual constricting action of cocaine. Also in the treatment of gouty catarrhs, astringents are generally of but little value as compared with salines and alkalis.

In the causation of the proximate symptoms for which patients seek our assistance, it is very seldom that one

ætiological factor alone can be regarded as the sole cause of the disease. Thus, even in the so-called specific diseases, many of the most common phenomena are superimposed by the action of other factors than the specific exciting cause. For example, the clinical feature of a case of tuberculosis may be a complex of the results of the action of the tubercle bacillus, plus those due to the microbes of suppuration. Similarly, although a condition of goutiness *may be*, as far as can be determined, the sole factor in producing a given rhinitis or pharyngitis, there can be little doubt that careful local examination will usually disclose the presence of other factors, and that the number of cases produced solely by gout is infinitely small compared with those in which the ætiological factors are multiple, and in which gout is only a predisponent. When we reflect on the paramount influence of nasal obstruction or insufficiency, interfering with the normal passage and air tension of the breath current; or again, on the innumerable pathogenic bacteria which swarm in the nose, mouth and throat, and whose toxins are often locally absorbed, and the various chemical, mechanical, thermic and reflex influences to which the nose and throat are exposed from their position and relation to the environment; in addition to the influence of factors arising from the condition of the other tissues and organs of the body, it will, I think, appear a reasonable conclusion that goutiness is more commonly one of the predisposing or constituent factors in any given case, than a sole direct cause. There is no doubt, however, that gout impresses its own characters on catarrhs of complicated origin, and especially makes them resistant to treatment, obstinate and recurrent. This is a fact that those who depend on local to the exclusion of general treatment need to bear in mind. Otherwise a case will often baffle the best planned and most thorough interference of the surgical specialist. *Vice versâ*, it is only too often the fact that "gout" is treated to the exclusion of special local abnormalities, again rendering only a very partial and temporary benefit possible. This is more especially the case in those chronic disorders in which structural disorders of the nose play an important part, such as

hay fever, paroxysmal sneezing, obstruction, suppuration of nose, polypus, certain forms of rhinitis, pharyngitis, laryngitis, bronchitis, asthma, œsophagismus, and middle ear catarrh. Here it is that the combination of surgical interference with well planned medical and balneo-therapeutic treatment and spa life, produces such triumphant results, reminding us of the truth enunciated in the Ayur Veda in the first century of the Christian era :—" Only the association of medicine with surgery forms the perfect physician. The physician who is deficient in the knowledge of one of these branches resembles a bird with but one wing."—(Trans., quoted in Billroth, "Surgical Pathology.")

Hay-fever and allied conditions of hyperæsthetic rhinitis in this connection deserve more than a passing reference. Whatever the immediate exciting cause may be (pollen, dust, &c.) in different cases, there are in my experience in severe cases two additional factors which are so largely susceptible of modification in nearly every such case, that the sufferer, if he will carry out the treatment, can be brought practically into the normal state of resistance of the average individual to the exciting cause of the disease, *i.e.*, if the structural intra-nasal irregularities and defects are corrected surgically, and the gouty element in the catarrh vigorously attended to and eliminated.

Apart from the above manifestations, gout predisposes, in my opinion, to cancerous degeneration, and to the localisation and recurrence in the throat and nose of manifestations of syphilis in those who are the victims of the latter disease. Gout, also, by the depression and chronic worry that it causes in keeping up minor ailments in the nose and throat (quite apart from any more general effect) tends to make the patient neurotic. The subjects of gouty manifestations in the nose and throat, are certainly very prone to attacks of influenza, and to pyoccal invasion, as has been mentioned above.

In the treatment of the gouty element in diseases of the throat and nose, my experience is overwhelmingly in favour of a visit to a well arranged spa. The particular spa recommended to the patient must depend on other elements in the case as well as the condition of the throat and nose.

Carlsbad and Marienbad must remain for some time to come the ideal spas, from the high development and completeness of their arrangements, the natural features of their waters, and their situation and surroundings. They are especially suited for cases of gout with general plethora in strongish subjects, but there are many for whom the waters are quite unsuitable and even injurious. Mont Dore has special facilities in connection with diseases of respiratory tract. Buxton, Harrogate, Bath, Leamington, Strathpeffer, Llandrindod Wells, Ems, Wiesbaden, Hamburg, Vichy, and many others, are well-known and variously suitable to different cases. Speaking generally, just as much can be done at an English spa as abroad, under proper supervision, and again the patient has the advantage of English medical advice, a shorter journey and his own language. On the other hand, some patients prefer the total change of scene, customs, diet and people, and derive more benefit from a Continental spa, besides which they are further from business cares and worries. The English *pension* and *table d'hôte* system does not compare favourably with the Austrian restaurant system, and is the great drawback to English spas, as its tendency is to allow the habit of over-eating to be perpetuated. Further, diversions and music are not attended to here as abroad. On the other hand, horse exercise, fishing, hunting and shooting are more accessible here than on the Continent, and if not allowed to interfere with the routine of the cure, assist in entertaining those who like these sports. In conclusion, I would desire to affirm that gouty manifestations in the nose and throat are exceedingly common, sometimes uncomplicated, but more frequently in combination with local disorders of other origin, and that in order to cure the patient equal attention must be given to both the constitutional and local errors.

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## SEPTIC RHEUMATISMS.

BY E. SOLLY, M.B.LOND., F.R.C.S. (HARROGATE).

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THE idea of a symposium, or "drinking together," suggests a certain freedom from the ordinary restraints of formal society. As the editors have pointed out, it is an odd term to apply to the collection of medical opinions upon a certain subject, or group of subjects; but the very freedom from formality may be an advantage, in that it allows opportunity for those who, from want of leisure or adequate clinical and literary resources, cannot write epoch-making treatises, or even venture to join in grave academic discussion, but who may, nevertheless, be able to contribute, in a less conspicuous way, items of interest from their own experience and observation. *In vino veritas*—so runs the proverb; and in joining in this medical "drinking bout" I will at least try to dress up whatever amount of truth I may be able to present, with as little "padding" as is consistent with decency.

In dealing with the subject of septic rheumatism, I think it is fair to say that the initial difficulty is the one usual in any discussion, namely, that of definition.

If we imply by the words septic rheumatism, all forms of rheumatism due to the action of invading micro-organisms then I would say that it seems to me that all forms of rheumatism should be included, for I think evidence is constantly tending to accumulate in favour of the idea that "rheumatic fever" and all forms of rheumatism, however widely the term is applied, are really due to micro-organisms of one kind or another. The trophic disorders, probably depending upon nerve degeneration, such as the "rheumatoid" class, may perhaps be excluded, but the border-line between these and "rheumatic" affections is not so easy to define as the compilers of textbooks seem to imagine, and I believe many, if not all, of the class, not excluding typical "chronic osteoarthritis," will prove ultimately to be the after effects of

previous microbic infection, just as the degenerations characteristic of late tertiary syphilis are due to the primary infection.

The subject of rheumatism—acute, sub-acute, and chronic—as ordinarily understood, does not come within my province, for it will be for others to treat of these ailments in this symposium, but I would point out in passing that statistics show that the curve of seasonal prevalence for “rheumatism” follows pretty closely that for septic diseases in general.

Limiting ourselves, then, to that class of rheumatic affections which appears to be directly due to microbic infection, we find that the severity of the symptoms may range from a simple synovitis with little effusion and transient in character, up to definite arthritis, even culminating in suppuration, destruction of joints, and consequent liability to general pyæmic infection. Even should recovery occur, relapses are almost sure to ensue on any fresh exposure to infection, for no immunity appears to be acquired; indeed, relapses are generally marked by aggravation of the symptoms, and the tendency to lapse into chronic rheumatism and rheumatoid degeneration, is apparently greater than in what, for the present, we must consent to call non-septic rheumatism.

The character of the symptoms varies in different cases, but in the septic class there is less tendency for the inflammation to travel about from joint to joint, subsiding in one as it appears in another. Flying pains may appear for a day or two, passing from one part of the body to another, but there is a general tendency for the complaint finally to “settle down” as it were, upon one or more joints. The knee is that most commonly selected, but in this class of rheumatism certain other situations are not unfrequently involved, and as these happen to be seldom affected in acute rheumatism, the point becomes one of diagnostic importance. As instances, I may mention the sterno-clavicular, temporo-maxillary, intervertebral, and sacro-iliac joints, the plantar fascia and other fibrous bands and aponeuroses.

Although cardiac complications are on the whole uncommon

mon, they nevertheless do occur, and while less likely, perhaps, to end in permanent valvular mischief than in true rheumatism, they are most dangerous in their acute stages. These complications are the more likely to occur the nearer the septic condition approximates to pyæmia. Ulcerative endocarditis is, I believe, more commonly associated with the septic class of rheumatism than the other. The mere existence of a transient cardiac murmur must not be taken as evidence of endocarditis, for some murmurs are certainly "hæmic" in origin.

Profuse sweating may occur, but it is certainly not very common (except in those severe cases which go on to pyæmia), and the profuse sour sweats of "rheumatic fever" are unknown. Gastro-intestinal disturbance is often little marked and the tongue may remain comparatively clean throughout. The fever, on the whole, does not rise high, and I understand the occurrence of hyperpyrexia has never been recorded.

Suppuration, which never occurs in typical acute rheumatism, though not common in this class, is not altogether unknown, even in cases which cannot exactly be called pyæmic. Pus may form in the joints without any very severe symptoms arising, and if it is evacuated early, and no further increase of sepsis takes place, recovery with a practically undamaged joint may ensue. This fortunate result cannot be looked for in many cases, and where suppuration has occurred some degree of stiffness, if not ankylosis, is to be expected. The latter may arise in severe and relapsing cases, even without suppuration.

The species of organism present, no doubt accounts for the particular features of each case, and a mixed infection is probably the rule. The presence of the gonococcus in the lesions of gonorrhœal rheumatism has been observed by some, but others have failed to find it, even in typical cases. The pneumococcus has been described in the effusion of rheumatism complicating septic pneumonia.

Bacteriological work in this direction is very much needed, but it must always be very complicated, and there are great difficulties in the way of getting decisive evidence as to the identity of organisms found.



Turning now to the various forms of septic rheumatism, it is interesting to note in how many of the specific infectious fevers rheumatism occurs, either as a complication or as a sequel. We cannot prove that all the infectious fevers are due to micro-organisms, but the general trend of evidence points in that direction, and it is, I think, probable that rheumatism occurring in connection with any of them is due to a modification of the organism causing the fever, or to the invasion of others, which the tissues, weakened by the primary illness, are no longer able to resist. The infectious fevers with which rheumatism is especially associated are scarlatina, enteric fever, epidemic pneumonia, epidemic cerebrospinal meningitis, and Malta fever. In all these the rheumatic symptoms occur chiefly in the stage of defervescence, a fact which points to a cause coming into play only after the natural resistance has been lowered by the primary fever. In the first two mentioned, the complication may take the form of a multiple synovitis, not necessarily severe or of long duration ; but in other cases, especially where one large joint is involved, the danger of possible suppuration is always to be remembered. And, even if this is averted there may remain changes of a "rheumatoid" character with consequent disorganisation of the joint. In Malta fever, the rheumatic affection, though extremely painful, seems to be much less likely to affect the joints permanently, but as the intervertebral and sacro-iliac joints are commonly involved, the symptom adds very greatly to the distress of the patient by restricting the power of movement, even in bed.

"Rheumatoid" degenerations have been described in some cases as attributable to an attack of diphtheria, but in this affection acute rheumatic symptoms are rare, and in view of the difficulty of deciding sometimes between typical diphtheria and other forms of septic sore throat (acute tonsillitis, &c.), this fact is interesting, for the frequency with which "rheumatism" either precedes or follows acute tonsillitis is certainly more than a mere coincidence. Apart from the specific fevers, in which a microbic origin cannot be said to be definitely proved, there are certain other infective diseases in which

"rheumatism" occurs, namely, dysentery, syphilis, and, practically the most important of all, gonorrhœa. The joint lesions of pyæmia must also be mentioned as evidence that septic organisms in the circulation may find in the joints a suitable and happy hunting ground, and I cannot help thinking that rheumatism and tuberculosis are in some cases connected, in that patients suffering from phthisis, and living in damp, unhealthy houses, are affected with "rheumatic" pains in joints which are not always followed by tuberculous arthritis; though when this does occur the rheumatic inflammation has doubtless prepared the way for the tubercular deposit.

In the case of syphilis, the rheumatic manifestations are not very frequent and are on the whole unimportant. In the "acquired" form of the disease they occur as flying pains about the joints, sometimes associated with slight synovitis, and are usually present during the period of invasion of the "syphilitic fever." They pass away with the development of the commoner secondary symptoms, and have no obvious immediate effect upon the joints involved, though it is possible that some damage is really done, of which the development of gummata in later stages may be the only evidence. In the congenital variety, a peculiar form of transient symmetrical synovitis sometimes occurs. This is practically limited to the knee, but as this hardly comes within the range of my part of this symposium, I shall not pursue the question.

*Gonorrhœal rheumatism* is, as I have already said, practically the most important of all this class. I do not propose to go exhaustively into the symptoms of the disease, for they are fully described in most of the well-known text-books, and those who have not read the excellent article by Dr. Garrod in Dr. Clifford Allbutt's "System of Medicine," may do so with advantage. There are, nevertheless, one or two particular points which I think are of great interest and special importance.

Gonorrhœal rheumatism is described as occurring early in the course of gonorrhœa, either actually in the febrile stage, or as this is subsiding; but though some observers note that it may occur "in the chronic stage," I believe we must extend

the use of the term "chronic" to include cases where there has been no acute gonorrhœa for upwards of twenty years, and where all symptoms have ceased to trouble the patient. Rheumatic symptoms may certainly arise so long as any gleet remains, for this symptom implies some existing urethritis; but I have been struck, during the course of my practice at Harrogate, by the frequent association of chronic articular rheumatism with chronic urethritis, though this has been often latent and only discovered after careful enquiry, even when the urethritis has gone on long enough to reduce the urethra down to the point of admitting no more than a No. 1 bougie, or less. Many patients appear to tolerate a stricture to an extent which is truly extraordinary.

The question seems to me the more deserving of further attention in that I have found that whereas the usual routine treatment by baths, douches and waters has been only partially or temporarily successful when undertaken before the urethral trouble has been put right, as soon as careful attention has been paid to this matter, the articular symptoms have rapidly improved, and in one or two cases I have seen joints apparently ankylosed and disorganised beyond chance of cure, and in which baths and douches could only palliate, regain, under the same "water" treatment, associated with cure of the urethral condition, a freedom of movement quite compatible with active exercise in the way of golf and riding.

Further bacteriological enquiry is necessary to discover in how many of these cases the gonococcus is present. Many recent experiments have shown that this organism can be kept alive several months at least in suitable media, and it has been described as present in the crypts in the urethral mucous membrane for some years after all acute symptoms have disappeared; but how long it can remain thus latent and yet retain its potential virulence is a subject which demands further research.

Gonorrhœal rheumatism is said to be rare in women, but opinions certainly differ as to this, and Dr. Septimus Sunderland has recently produced some evidence to show that it is much commoner than is generally supposed.

It may be that the urethra is not so much involved as in the male—probably not; but the uterine canal and Fallopian tubes suffer instead, and the proved longevity of the gonococcus, the enormous number of males who, at some time or other have had gonorrhœa, together with the almost universal presence of cervical or uterine catarrh with leucorrhœa, in married women, present, to my mind, a very suggestive picture. If gonorrhœal rheumatism may follow gonorrhœal infection of the conjunctiva, it is at least equally probable that it should follow infection of other mucous membranes, such as those of the vagina and uterine canal.

Of the cases of puerperal arthritis some are, of course, pyæmic, and might arise from any insanitary surroundings;<sup>1</sup> but some are undoubtedly simply gonorrhœal; and if it can be established that a chronic or latent gonorrhœa in the female is frequently the cause of chronic uterine catarrh, then fresh light is thrown upon the apparent connection—to which attention has been drawn by Dr. Ord and other observers—existing between chronic rheumatism, so common in women in middle life, and uterine disease. A good deal is said, in the older text-books especially, as to the possibility of a male contracting gonorrhœa by intercourse with a female suffering from simple leucorrhœa or during the menstrual period. The interest now attaching to such a question would turn upon the evidence as to the specific organisms present. We do not know under what conditions a latent and possibly degenerate gonococcus may re-acquire virulence.

I have seen one case in which a man, who had had gonorrhœa in early life but had been “cured,” developed a very severe attack some years after marriage, his wife suffering at the same time from profuse leucorrhœa. There did not appear to be the slightest possibility of either party having

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<sup>1</sup> [Septic arthritis, occasionally of a very acute and rapidly fatal form, not infrequently arises in connection with insanitary surroundings apart altogether from the puerperal state. It is within our experience that two such cases occurred, within a year of one another, in the same house, which was subsequently shown to have a shallow well defiled by leaky drains. As the house was “licensed,” the victims were probably to some extent alcoholic.—ED.]

contracted infection from another source. Since this second attack he has been subject to lumbago, sciatica, and other rheumatic symptoms, concurrently with slight urethritis and gleety discharge occasionally. The case is incomplete, in that no bacteriological examination was made, but there was some evidence that the husband might, after all, have had a "latent gonorrhœa" (in spite of his supposed cure), infected his wife, and thus re-infected himself from the new "culture." "Latency" in the gonococcus may be due as much to a gradual degeneration, requiring transference to a fresh culture medium for restoration of virulence, as to an established tolerance in the urethral mucous membrane. Local tolerance does not necessarily imply constitutional immunity.

Finally, I would draw attention to a note of Mr. Wallace (*British Medical Journal*, October 6, 1900), as to the occurrence of rheumatism in connection with rectal ulceration. I cannot call to mind any cases exactly resembling his, but on the day that I read his note I saw a lady whom I have been treating with rather less than more success for chronic synovitis of the knee for some time, and she happened to remark that she suffered occasionally, though not severely, from "bleeding piles." Unfortunately I have not yet had the chance of thoroughly testing the existence of a causal connection between the two troubles. The treatment of the piles is proceeding, but sufficient time has not yet elapsed to form any opinion as to its effect on the rheumatism. Lesions of mucous membranes other than the urethral or vaginal, should also be remembered as the possible point of entry for the rheumatism-producing microbes, and while thinking over this subject last summer, I could not help noticing that some remarks of Dr. Hunter's (*British Medical Journal*, July 28, 1900), as to the influence of carious teeth and ulcerated gums, were very suggestive. Bad teeth are unfortunately common enough to be associated with anything, but I have often been struck, in the course of practice here during our season, with the fact that in chronic rheumatic cases the teeth are never good (unless a complete set of artificial ones is accepted as deserving the adjective !) and I may even say almost invariably

very bad. Of course, the answer may be that the carious teeth only act through the dyspepsia they cause, but that is only begging the question, and it does not get over the fact that the damaged gastro-intestinal mucous membrane may after all be the weak point in the natural defences.

In conclusion, let me add a few words as to treatment. Internal remedies, such as salicylates, are admitted to be of little or no use, but a large number of these cases find their way to mineral water health resorts, and, apparently, derive benefit from drinking aperient or alterative waters. Of local treatment, when suppuration occurs, incision, flushing out, and as a rule drainage under antiseptic conditions, are obviously indicated; and the question of amputation to save life must always be considered in severe cases. As regards other remedies, hydrotherapeutics find in this class their most useful sphere of operation. Packs, massage, baths, and the various forms of radiant or dry heat baths, either separately or in rotation, are always beneficial if so modified as to suit the requirements of each case. But most important of all, if any point of chronic ulceration of any mucous membrane exists, it should be attended to at once, in order to do away with any possibility of septic absorption. In the case of the urethra, the first thing needed is a full dilatation—by full, I mean to the largest bougie that will pass through the healthy part of the urethra. This will generally be found to be No. 15, at least (English scale).

A free passage for the urine, without the slightest chance of fluid friction caused by even a "relative" stricture, must be obtained before a gleet can be finally cured. Endo-urethral applications may be necessary, or drugs to check growth of organisms in the urine, such as salol or boric acid, &c., or the usual oils and oleoresinous mixtures, such as ol. santal. and copaiba, but they are all subsidiary to the securing of an easy passage for the urine.

So much for my contribution to the symposium. I have tried to avoid dealing with points already fully dealt with in the larger text-books, and though from want of access to current medical literature I am probably ignorant of much

good research work already done, I can only hope that some of what I have said may be suggestive to those who have facilities for carrying on bacteriological work, a sphere of activity which is unfortunately beyond my possibilities.

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## RHEUMATOID ARTHRITIS.

BY J. G. DOUGLAS KERR, M.B. (BATH).

THE subject which I have been asked by the editor to discuss in this paper is rheumatoid arthritis as distinct from rheumatism and gout. The subject is one of considerable interest and great importance, as it is only within comparatively recent times that the distinction has been recognised by any but a few specialists in the profession. The confusion has been much increased by the variety of names given to the disease by different writers: rheumatoid arthritis, osteoarthritis, rheumatic gout, arthritis myelitica, arthritis deformans, polyarthritis deformans, are but a few among the many. As no name can possibly give even an inadequate description of a disease so variable in its clinical features and pathological results, it would save much confusion if writers in future could be persuaded to adopt one name; but this is perhaps too much to expect. Rheumatoid arthritis is the name best known to the greatest number of the profession, and for this reason is the one I prefer to use. Rheumatic gout is undoubtedly the worst name among many bad ones, as it indicates a connection between these diseases which does not exist. When this name is used to the public, who attribute but little importance to chronic gout or rheumatism, it enhances the difficulty of impressing upon them the grave nature of the malady, and the necessity for strict attention to the treatment prescribed. In spa practice, where the great majority of patients arrive with the preconceived idea of the nature of their disease as well as a distinct name given to it by their medical attendant, this difficulty is enhanced in one's endeavour to do the best for the patient, at the same time having regard to that loyalty to one's colleagues which is so necessary to the well-being of the profession.

There can be little doubt that rheumatoid arthritis, though not recognised as a separate disease, has existed from all time. The bony deformities so characteristic of the disease



have been met with among the mummies of Egypt of a date probably 1200 to 1300 B.C., while the catacombs of Rome and Paris have furnished numerous examples. Sydenham, in 1683, seems to be the first writer to point out the clinical aspects of the disease, but he and many subsequent writers described it as a form of rheumatism. In 1800 Landré Beauvais recognised the distinction between gout and rheumatoid arthritis, and noted its frequency among women. Four years later (1804) Heberden, whose name will always be associated with the disease, described the terminal phalangeal bony enlargements still known as Heberden's nodes. He seems also to have been the first to differentiate between rheumatoid arthritis and rheumatism. Many subsequent writers, while elaborating the clinical features of the disease, still confuse it with gout and rheumatism, even such a distinguished authority as Charcot falling into this error. The more recent French writers, such as Lancereaux, Albert Robin, Déjerine and Marie, however, recognised the independent nature of the malady, and are thus in harmony of opinion with English writers, such as Sir A. Garrod, Spender, Hugh Lane, Dr. A. Garrod, Bannatyne, Luff and Orde. In 1897, Professor Bäumler opened a discussion on the disease at the Berlin Congress of International Medicine, and the following conclusions were arrived at :—

(1) "That the name 'rheumatism'<sup>1</sup> should be limited to acute rheumatism and certain variations of that disease ; (2) that a special form of disease, of polyarticular nature, distinguished by its chronic course by having no tendency to heart disease, by not being readily influenced by the salicylic preparations, but one which quickly leads to malformations and ultimately to destruction of the joint tissues, should be called arthritis, or better, polyarthritis deformans ; (3) that the cause of the disease is not known with certainty, inasmuch as many conditions predispose to it, such as insufficient food, nerve exhaustion and other previous joint affections, there being also a special tendency to the disease in women and

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<sup>1</sup> Bannatyne, "Rheumatoid Arthritis," p. 9.

apparently in connection with their sexual organs. It is not more common in the poor than in the rich ; (4) that no special connection with organic or functional nerve disorders, either of a central or reflex origin can be established ; (5) that it is not unlikely, and the more recent bacteriological researches give this idea a certain basis, that we are dealing with an infective disease, and (6) that it should not be lost sight of that there may be several causes and infections at work at one and the same time."

With regard to the causation of rheumatoid arthritis there has been nearly as much diversity of opinion as there has been variety of names. The earlier writers confused the disease with gout and rheumatism, and held the theory that it was a combination of the two, hence the name of rheumatic gout. More careful clinical observations demonstrated the distinctive characters of the disease, and now the theory as well as the name is obsolete. Some writers favoured the nervous origin (Ord, Senator and Remak) ; others class it among the strumous diseases ; Hugh Lane strongly advocated the theory that it was a combination of gout and phthisis. While there is still room for doubt, the consensus of opinion, as well as clinical and experimental research, points to the probability that rheumatoid arthritis is an infectious disease due to micro-organisms invading the joints. Such authorities as Schüller, Ramond, Bäumlér, Chaufford, Stewart and Riva, all favour the theory of specific infection ; Bannatyne and Wohlmann in this country, have described a microbe obtained from the fluid taken from the joints of patients suffering from rheumatoid arthritis. They have stained and measured it and say it is found in the synovial fluid, membranes, cartilages, bony *débris*, and occasionally in the blood ; they have further succeeded in reproducing the organism by cultivation. This organism they found in many cases of rheumatoid arthritis, but not in any other joint disease. Schüller, Chaufford and Ramond have also discovered microbes. Those of Chaufford and Ramond, Bannatyne and Wohlmann, so closely resemble one another as to be probably identical ; that of Schüller presents such diversity of character as to mark it a different

organism. Bannatyne and Wohlmann failed to reproduce the disease in animals inoculated with their cultivation, but this link in the chain of proof has been supplied by Dungern and Schneider, who have produced a joint disease in animals closely resembling rheumatoid arthritis, by the injection of a cultivation obtained from an undoubted case of rheumatoid arthritis.

From what I have seen of rheumatoid arthritis, and one has an ample opportunity of studying it at such a spa as Bath, I am inclined to concur with Bannatyne who believes the disease due to micro-organisms in the joints. These organisms give rise to soluble products, which when absorbed pass to the central nervous system and give rise to the nerve symptoms. His arguments in favour of his theory are so forcible that I take the liberty of quoting them verbatim :—

<sup>1</sup> (1) The frequent occurrence of this disease as a sequel to other forms of known infective disease. About 55 per cent. of my cases in which a definite cause is assigned, arise, I find, as the sequel of some infective antecedent disease, such as rheumatism, gonorrhœa, influenza, tonsillitis, typhoid fever, &c. In another 25 per cent. we find a history of disease of the female organs of generation ; in 20 per cent. catarrhs of the gastro-intestinal and respiratory mucous membranes, chills and getting wet ; and in 5 per cent. a history of direct injury. Stewart found 50 per cent. of his cases had suffered from previous infective diseases, such as gonorrhœa, otitis media, subcutaneous abscesses, &c. Now while some of the above disorders obviously can act only as predisposing the soil to inroads of bacteria, others would supply the actual lesion through which the bacteria could gain access to the circulation. In this class would be tonsillitis, gastro-intestinal, respiratory, and genito-urinary catarrhs, &c. A catarrh of the mucous membranes acts by producing mucous abrasions upon which organisms can settle, by weakening the epithelial cells in favour of the parasite, and by weakening the nutrition and vital energy of the body generally. With such conditions

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<sup>1</sup> Bannatyne, "Rheumatoid Arthritis," p. 26.

it is easy to see there will be little difficulty in gaining access to the circulation, and once having obtained a footing they will pass readily to all the tissues of the body.

(2) Its numerous nerve symptoms, for which no adequate nerve lesion has been found. This in my mind is one of the strongest arguments. Were the disease due to nerve troubles, there can be no doubt adequate lesions would exist in the central nervous system. But there is no evidence of their existence, and sufficient search has been made to render their existence impossible of remaining undiscovered. Yet, as the nerve symptoms do exist, we can only conclude that they are due to toxic action, and the probability is that the toxic products are produced by bacteria in the body and are not due to auto-formation.

(3) The occurrence during the course of the disease of such disorders as pneumonia, pleurisy, pericarditis, endocarditis, &c., must necessarily imply an infective process. I find that about 3 per cent. of my cases developed either pneumonia or pleurisy during the time they were under my care, and about 17 per cent. developed endocardial or pericardial conditions after the onset of the disease.

(4) Its polyarticular character, as Professor Bäumler says, is sufficient to suggest its infective nature.

(5) Its course and nature also point this way. A disease marked by persistent swellings showing periodic exacerbations, has all the characters of an infective trouble.

(6) The presence of enlarged glands proximal to the affected joints must surely be caused by an infective materies morbi.

(7) The result of treatment by guaiacol, salophen, &c., also surely point to a disease whose symptoms are mainly caused by bacterial products, for is not the principal action of these drugs to free the system of the albuminous products elaborated by micro-organisms by way of the kidneys?

Whatever the real cause of the disease may be it will be found in a great majority of cases that it follows upon some strain on the system which has lowered vitality and lessened the power of resistance, and more especially is this the case

where the strain has fallen upon the nervous system accompanied by bodily fatigue and want of sleep. It is rare to find the disease commencing in persons enjoying their average health. The fact that rheumatoid arthritis is so much more common among women than men is probably due to the influence of uterine and ovarian irregularities in producing the conditions of debility and nervous irritability which predispose to its onset ; and also if the germ theory of causation is correct, the greater expanse of mucous tissue in the female generative organs in an unhealthy condition provides a suitable location for the microbe to enter the system.

When rheumatoid arthritis has once manifested itself the following points are fairly unanimously agreed upon :— (1) That it is a distinctive disease with marked characteristics affecting the joints ; (2) that it is more common among females than males ; (3) that it appears in two forms, acute and chronic ; (4) that it is progressive ; (5) that the prognosis is unfavourable ; (6) that recovery is always slow ; (7) that the tendency of the disease is towards crippling by destruction of joint tissues, few patients recovering without more or less deformity ; (8) that the nervous system sooner or later becomes affected and must be carefully watched throughout ; (9) that debility becomes a prominent feature, so that treatment should be stimulating and never depressing.

During the last ten years of my practice at Bath I find that of the patients coming here for thermal treatment 18 per cent. have suffered from rheumatoid arthritis, 50 per cent. from rheumatism, and 32 per cent. from gout. Where these figures may differ from others, I would point out that in private spa practice one's patients are almost entirely recruited from the well-to-do classes. Mr. Llewellyn Jones has kindly supplied me with the following statistics from the books of the Bath Royal Mineral Water Hospital, where the patients are all of the poorer classes. In the five years, 1895 to 1899 inclusive, the number of patients admitted suffering from the three diseases were :—rheumatoid arthritis, 1,729 ; rheumatism, 2,620 ; gout, 800. He further supplies me with the proportion of cases in males and females respectively :—

		Males.	Females.
Rheumatoid arthritis	...	529	1,200
Rheumatism	... ..	1,815	805
Gout	... ..	734	66

These figures, while demonstrating the greater frequency of rheumatoid arthritis in females than males, do not correctly express the ratio; there being practically an equal number of male and female beds, the excess of female patients, from limitation of space, could not be admitted.

The diseases with which rheumatoid arthritis has been confused are rheumatism and gout. The distinction between it and rheumatism in their acute forms are so well marked that there can be little difficulty of diagnosis except in those rare and very acute cases of rheumatoid arthritis, where several joints become affected at the same time. Acute rheumatism (rheumatic fever) is much more sudden and violent in its onset. The constitutional disturbances are more pronounced, and frequently follow a well authenticated exposure to chill or damp. It is a disease characterised by high temperature; early and profuse sweating of a disagreeable, acid and sour odour; stiffness and pain in the limbs; inflammation, swelling and pain in one or more of the large joints, which pain rapidly increases until it is of a most agonising character; a tendency to metastasis, the inflammation suddenly leaving one region and reappearing in another; and finally liability of the endocardium and pericardium to become affected. Acute rheumatism need not of necessity affect the joints at all, though in the great majority of cases it does. It is the larger joints which are primarily involved, and only later on the smaller joints. The joints become involved in an erratic and uncertain manner, and not in that slowly and progressive and symmetrical way which is so typical of acute rheumatoid arthritis. If there should be doubt it can easily be cleared up by the administration of salicylate of soda in free doses, to which acute rheumatism rapidly yields, but which has little or no effect on acute rheumatoid arthritis.

Between chronic rheumatism and chronic rheumatoid arthritis there is more difficulty, but here again a little care

and observation should obviate mistakes if the following facts are kept in mind. Chronic rheumatism has not of necessity any joint manifestations at all, but may show itself in the liability of the patient to chorea, erythema, neuritis, and flying muscular pains, endocarditis and pericarditis. The joint affections of chronic rheumatism are less symmetrical and progressive, and though the joints may show fusiform fibrous enlargements due to thickening of the joint capsules, there is never lipping of the cartilages or bony outgrowths. It is a common experience to find pain in the joints and neighbouring muscles flying from one part of the body to another without structural change in chronic rheumatism, but not in rheumatoid arthritis. The joint pains of rheumatism are usually more severe at night in bed when the patient is warm and the joints at rest. The joint pains of rheumatoid arthritis are less at night and when the patient is at rest, and are developed or increased in severity by movement. Again, the treatment by soda salicylate becomes a powerful aid to diagnosis in doubtful cases. The symptoms of chronic rheumatism yield rapidly and quickly to its use, especially when the drug is administered in one large dose at bedtime ; those of rheumatoid arthritis show little or no improvement. I think it probable that many cases of chronic joint deformity in the fingers of people (more especially in women) past the prime of life, which have been called rheumatic and gouty, would more correctly have been described to chronic rheumatoid arthritis.

Between rheumatoid arthritis and gout there is closer similarity of symptoms, and consequently greater difficulty of diagnosis. The following points mark the difference, The typical acute attack of gout usually commences in the foot, in a large proportion of cases in the great toe. It is sudden and violent in its onset. It not infrequently comes on when the patient is feeling unusually well and fit, after a time of rest, change, and good feeding. The attack often commences in the night or early hours of morning, while the patient is asleep ; the first symptom being pain of a violent burning and boring character, quickly followed by marked

redness and glazing of the skin, and swelling in and around the joint. This differs materially from rheumatoid arthritis, where the attack usually commences more gradually — one or more joints of the hand being primarily affected. Pain follows swelling in the joints, and is not of the same violent character. The skin over the joint is not usually red, nor is it acutely sensitive to superficial touch. The attack rarely starts when the patient is in good health, but follows on some predisposing illness or strain which has lowered vitality.

Between chronic cases of gout and rheumatoid arthritis the following facts should be borne in mind when arriving at a diagnosis. Gout is more common in men. Rheumatoid arthritis, in the proportion of five or six to one is more common in women. Gout is most seen among the rich, well-fed, and idle members of society. Rheumatoid arthritis among the poor, ill-fed, and overworked. Gout is more common in the foot and great toe joints, rheumatoid arthritis in the hand and thumb joints. Gout not rarely remains in one joint; the tendency of rheumatoid arthritis is to spread to many joints. Where gout spreads to other joints it does so in an erratic manner, while in rheumatoid arthritis there is a striking symmetry in the affection of the smaller joints of the hand. This symmetrical affection of the finger joints is, perhaps, the most typical and distinctive characteristic of rheumatoid arthritis. Gout, in my experience (which is confirmed by many writers) never attacks the temporo-maxillary articulation; rheumatoid arthritis frequently does. Gout is rarely seen in early life, and hardly ever among children; rheumatoid arthritis is frequently met with in children, though it seems to be increasingly common as age advances, up to about fifty in women and sixty or sixty-five in men. In gout there will frequently be a history of previous attacks which have left no visible joint change; this is rare in rheumatoid arthritis. Gout improves under spare diet, restricted stimulants, and the administration of the alkalis, iodide of potash, colchicum, and non-stimulating drug treatment. Rheumatoid arthritis, on the other hand, requires feeding up, tonics, bracing air, and general stimulating. In gout



pain is usually the first symptom, in rheumatoid arthritis there is little or no pain at first, and as a rule less than in gout, even when the joint has become enlarged. In rheumatoid arthritis muscular atrophy soon becomes a marked feature, out of all proportion to what can be accounted for by simple disuse. This is not the case in gout. The teeth of the gouty will usually be found affected and worn down; they show no change in the early stages of rheumatoid arthritis. In gout biurate of soda is present in the tissues surrounding the joints affected, and even in the joints themselves. Its presence may be demonstrated in the fluid of a blister applied over the joint. In rheumatoid arthritis biurate of soda is not present. As soda salicylate is a help in the diagnosis of rheumatism, so is colchicum in gout. When the drug is administered in doses large enough to bring the system quickly under its effect, and to act on the bowels and cause purging, it will, at least, temporarily relieve the symptoms of gout, but it has no effect on rheumatoid arthritis.

There are several other symptoms occurring in rheumatoid arthritis which, though not so constantly present, yet when found tend to clear up the diagnosis. Among these may be mentioned the peculiar pigmentation of the skin, first noted by Spender, and since called Spender's spots; the enlargement of glands proximal to the joints affected; and the enlargement of spleen, in my experience more commonly met with in children.

I have endeavoured to point out the distinctions between rheumatoid arthritis and rheumatism on the one hand, and rheumatoid arthritis and gout on the other, and I think it will be agreed that these differences are sufficient to establish rheumatoid arthritis as a separate and distinct disease; but while recognising it as a distinct disease, the diagnosis is complicated by the fact that it occurs in connection with both diseases to this extent:—While it is rare to find gout and rheumatoid arthritis in the same patient at the same time—and gout is not one of the diseases markedly predisposing to rheumatoid arthritis—yet the subject of rheumatoid arthritis may if of a gouty predisposition, develop

gout in a joint previously affected by rheumatoid arthritis; and in that case soda biurate would deposit in the tissues. Rheumatism certainly does predispose to rheumatoid arthritis, but when the latter occurs in a patient previously affected by rheumatism, its symptoms are sufficiently marked to make the distinction, with care, fairly easy.

I find that the interest of the subject has induced me to write much more fully than I had at first intended. I will, therefore, at this point conclude, hoping in some future issue of the Journal to deal with the symptoms, progress, and treatment of rheumatoid arthritis more satisfactorily than would be possible by condensing them in this article.

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#### LATEST NEWS BEFORE GOING TO PRESS.

AT a meeting of the Council held on October 31, it was resolved that the Librarian, Dr. Morgan Dockrell, should be empowered to open a fund for the maintenance and enlargement of the Library, which has been transferred to the premises of Messrs. Bale, the printers, Great Titchfield Street, where books can be viewed any day by the Fellows. Small subscriptions to the fund may be sent to the Treasurer, Dr. Luff, specifying the object for which they are intended.

THE First General Meeting was held on October 31. Dr. Douglas Kerr (Bath) occupied the chair owing to the absence of the President, Dr. Ivor Murray, who was suffering from an attack of bronchitis, which, however, has by this time fortunately passed away (November 5). The report of the Treasurer was received, and showed the Society to be in a firm financial position. The new President, Frederic Bagshawe, Esq., M.D., F.R.C.P., J.P. (Hastings), then commenced his duties, and delivered an address on "Some Points in the Development of Seaside Towns." A vote of thanks to Dr. Bagshawe for his address, proposed by Dr. Robert Lee and seconded by Dr. Ward Humphreys, was passed. Twenty-six candidates were nominated for election. A full report of the meeting will appear in the January issue of the Journal.

ON Friday, December 14, Dr. Waddell (Potters Bar) will introduce a discussion on "The Suppression of Malaria." It has been proposed that on this date the Fellows, instead of dining together before the meeting, shall sup together at 10.15 at Verrey's Restaurant. The Secretaries will be pleased to receive any comments on this suggestion.

## DAMPNESS OF THE SOIL AS A FACTOR IN THE PRODUCTION OF HUMAN TUBERCULOSIS.<sup>1</sup>

BY RICHARD COLE NEWTON, M.D.

IF an apology be needed for taking up the time of the Association with the histories of a few cases of tuberculosis, and an imperfect and crude discussion of the points which the cases seem to emphasise, I think that the importance of the subject chosen will provide the excuse.

I will first recite a few family histories which have come under my observation.

The D family, Germans, of vigorous stock. No cases of phthisis have been known to occur among the ancestors of this family for generations. Father, a farmer, died of some non-tubercular trouble, at a good old age. Mother living, over 70, and in good health. They had twelve children. The firstborn, a son, is now living and in good health. When he was one year old the family moved into a small stone house, now standing, which was exceedingly damp. Eleven children were born in this house in the eleven years during which they lived there. Then they moved into another house which they had built on the same premises. It was built of wood, was much less damp than the first one, but had too many shade trees around it. The second child, a female, died of consumption "following grippe," at 39. The third child, male, died at 37 of apoplexy. The fourth child, male, died at 40, of consumption "following grippe." The fifth child, female, had consumption, for which she went into Sullivan Co., New York State. This change of residence, she says, saved her life. She has lost a child from tuberculosis, and is herself still suffering from chronic bronchitis. The sixth child, female, died at 26, of pneumonia. The seventh child, female, died at 27, of consumption, "following grippe." The eighth child, a male, is living and in good health, at 36. The ninth child, a

<sup>1</sup> Read before the American Climatological Association at the fifth triennial session of the Congress of American Physicians and Surgeons, held at Washington, D. C., May 1, 2 and 3, 1900.

male, is living, and in good health, at 34. The tenth child, a male, is living and in good health, at 32. The eleventh child, a female, died in childbed. Had a diarrhoea for four weeks after the baby came, and had had a cough. Not known to have had lung trouble. The twelfth child, male, died at 18, of dropsy. No cough. Said to have fallen and "bruised his liver."

C family, Irish labourers and carpenters ; lived in a damp house. Their kitchen was in the basement and there the family lived a great part of the time. The children were frequently seen lying in their cradles in the basement. No phthisis so far as known amongst ancestors. Father and his sister, and mother's sister now living. Mother died of heart disease. They had twelve children, all of whom except two died of consumption.

H family, Irish labourers. Father living, mother died of some disease not tubercular. Their house was built for them thirty years ago. They had three children living when they moved into it. The place was very damp. The fourth child was born there. In about twenty years the eldest daughter died of phthisis, aged 22. Seven years ago the son, a printer, died of phthisis, aged 31. In 1900 the youngest daughter died of phthisis, aged 27. One daughter, now living, has a sensitive throat and abnormally red cheeks.

B family, American. Explicitly deny all traces of phthisis among their known ancestors. The eldest daughter complained of cough, indigestion, nervousness, &c. Got well, after going into central New York to live. The second daughter, a teacher, has advanced tuberculosis, and is now in Colorado Springs, under the care of Dr. Hart. Eldest son is anæmic and very "nervous." Younger son delicate, slender and pale. The house has been very damp. Now the surroundings have been improved by drainage.

These are all cases that have fallen under my personal observation. I dare say that by taking the experience of others the list might be indefinitely extended.

However, there have been enough cases cited to serve as a text for what I wish to say. I have long felt, as no doubt many

other observers have, that something besides direct contagion by the reception of the tubercle bacilli into the body is necessary to establish the morbid process which we know as phthisis pulmonalis.

M. Jaccoud says :<sup>2</sup> "The tubercle bacillus belongs to a class of pathogenic microbes called "etiological dualisms," because they exist in healthy organisms indefinitely without injury to the latter and become noxious only in consequence of changes in the organism itself from other causes."

If this be so, the bacillus of Koch acts as we know that the Klebs-Loeffler bacillus, the pneumococcus and streptococcus act. That is to say, that it may be present in the human body and produce no overt symptoms. And it is reasonable to suppose that we are exposed over and over again to this infection. Perhaps our bodies never are free from the presence of the tubercle bacilli and yet only ten or twelve per cent. of the inhabitants of the Atlantic seaboard die of consumption. Why does not the entire race perish from this disease? It may be said that the contagion is rather feeble and takes a long time to develop, and that the organism must be in a fit state to receive and nourish the germs, else they will not grow.

It is so easy to glide off into glittering generalities and to hide our ignorance under some half statement, or the plausible conjecture of some writer. It is a fortunate thing that we have at last adopted more exact methods of studying disease. Still, with all the care that has been bestowed upon the study of tuberculosis there is still very much that requires elucidation.

Squire<sup>3</sup> and Kanthack<sup>4</sup> assert that some other influence or influences must be acting in conjunction with the bacillus before the latter can produce consumption in human beings. This being so the latter argues "That it is likely in practise to be far easier to remove the conditions causing this predisposition than to eradicate the bacillus so long as fitting conditions for its development are left. The problem then is no longer a matter of isolation and antiseptics, but of improved surroundings and better conditions of life." He mentions in this connection the divergent conditions regarding the behaviour

of certain animals to anthrax infection. As for example, pigeons, which are usually resistant to anthrax, are rendered susceptible by starvation, and dogs, horses, pigeons and frogs, are made susceptible by being deprived of water. So a predisposition may be established in some animals by continued over-exertion, fatigue, loss of blood and by unsuitable diet. Guinea pigs and white mice, which are ordinarily resistant to avian tuberculosis, can easily be infected after being kept for a time in a warm chamber at 33° to 35° C. Precisely what changes are produced in the animals by these disturbances of their ordinary mode of life we do not know, we only know that whereas before we interfered the animal was insusceptible to the action of these various pathogenetic germs, afterwards it was easily infected.

“The war against tuberculosis then becomes a matter of sanitation rather than of disinfection and isolation, against the surroundings of the people rather than against a microbe, which can grow only when a predisposition is set up.”

On the other hand, we have long known that under certain conditions the bacillus of Koch does little harm to the animal into which it may be injected. You will all remember Dr. Trudeau's rabbits. All of those which had been injected with the tubercle bacilli and allowed to run at large got well, while all of those which were closely confined after inoculation died of tuberculosis. Perhaps one of the most conclusive experiments recently tried is reported from the Storrs Agricultural College in Connecticut.<sup>6</sup> Four cows were subjected to the tuberculin test in March, 1896, and did not respond. In October, 1896, they were again tested and all responded. They were then placed in a light, airy stable where it is estimated that each animal had 1,500 cubic feet of air space. In January, 1897, another test was made and all responded; but in April, 1897, after a test only two responded, and in July of that year none of them responded. For two years their milk was fed to eight healthy calves, only one of which contracted the disease, and that calf only showed evidence of tuberculosis six months after it had ceased drinking the experimental milk, so that the tubercular infection was probably due to some other cause.

Admitting, then, that the infection is well nigh universal and that it cannot become effective except under certain conditions, is it not our obvious duty to pay more attention to these conditions ?

The whole trend of present scientific opinion is to minimise, if not to deny, the danger of tubercular infection in human beings from cows' milk. The discovery of the Timothy hay bacillus and its resemblance to the tubercle bacillus, has cleared up some of the threatened danger from the alleged discovery of the latter bacilli in milk, butter, &c., the bacilli so discovered really being the Timothy hay bacilli. Baldwin,<sup>6</sup> Guthrie,<sup>7</sup> Carr and Northrup,<sup>8</sup> Bouviard, Still,<sup>9</sup> Moore,<sup>10</sup> and others, are disposed to deny that the mode of infection by the bacillus is through cows' milk or other food ; while Law,<sup>10</sup> Smith,<sup>10</sup> Park, Robison and others, believe that while there may be danger from infected milk it is small compared to the danger of infection from human consumptives.

And human infection itself is doubtless, as a general thing, comparatively weak. I will quote a few examples. Dr. Knopf<sup>11</sup> shows that the villages of Goerbersdorf and Falkenstein have had fewer deaths from consumption since the sanatoria were established there than before. Dr. W. S. Searle<sup>12</sup> says that 2,286 patients have been treated in the Brooklyn Home for Consumptives during fifteen years. The number of employées beside the staff, is at present 21. Of these 3 nurses have been employed over three years. In not one of these employées has consumption developed. Dr. Solly<sup>13</sup> says that in spite of every neglect of hygiene and cleanliness in the poorer lodging houses at Colorado Springs, not over one case a year of tuberculosis originates there. Dr. Da Costa<sup>14</sup> had traced the histories of the doctors and nurses in the Pennsylvania Hospital for a period of seventy years, without finding a case of phthisis transmitted by contagion. In a discussion before the Glasgow Medico-Chirurgical Society, Dr. Alexander Robertson and Mr. H. L. Clarke,<sup>15</sup> one from his long experience in the town hospital, and the other from his experience of surgical tuberculosis in the wards of the Royal Infirmary, stated that no case of infection among patients or attendants had come under their observation.

I think that we must agree with Professor N. S. Davis, junr.,<sup>16</sup> who says that if the bacillus of tuberculosis had been as infectious as that of variola and rubœla, the human race would long ago have become extinct. If, then, we have a feeble contagious element, which is apparently inoperative except under certain conditions, are we not neglecting our duty, if we do not more fully investigate the entire surroundings, including the conditions of the soil in those localities in which the disease is rife ?

As has been from time to time pointed out, the disease flourishes in some quarters of a town or settlement and will not flourish in others. Dr. L. F. Flick,<sup>17</sup> showed that for twenty-five years (1863-1887) all the deaths from tuberculosis in the fifth ward of Philadelphia occurred in less than one third of the houses. The famous communication of Dr. Bowditch to the Massachusetts Medical Society, in 1862, proved beyond question the influence of the soil in the propagation of phthisis. The varying prevalence of the disease in certain localities he attributed chiefly to the dampness or dryness of the soil, and modern criticism has not been able to refute his conclusions. So also the fearful mortality from consumption in the German prisons has been shown by Baer and Cornet,<sup>18</sup> to be due in part, at least, to the damp and insanitary buildings. And Buchanan's<sup>19</sup> observations in England scarcely need comment, in which, for example, he showed that the general death rate for Salisbury had been reduced 9 per cent. by drainage ; while that from phthisis had been reduced 49 per cent. ; and in other localities the reduction of the death rate from tuberculosis was nearly as startling. Professor Welch<sup>21</sup> says, "although the nature of the relationship between the conditions of the soil and the presence of tuberculosis is not well understood, practical experience has shown that many localities have secured by good drainage great reduction from the mortality from this most deadly scourge of the human race. A reduction amounting in some places to nearly 50 per cent. of the former death rate."

I may have taken up too much time in endeavouring to prove what few will attempt to confute. But the great import-



ance of the subject and the extreme desirability of drawing the attention of the profession and of the laity away from the contemplation of direct contagion by the bacilli, and of the contagiousness of milk and meat as the only dangers to be guarded against, must be my excuse. Buller,<sup>5</sup> Unterberger,<sup>22</sup> and Revillod,<sup>23</sup> point out that tuberculosis originates in certain areas in much the same fashion as other infectious diseases. It has, however, this difference, one class of people in a community will suffer from it and another will not. And people will contract the disease by a change in their habits or occupation as for example, "The percentage of Indian boys and girls that develop tuberculosis after giving up their out of door lives for the schoolroom is enormous."<sup>24</sup> "Tuberculosis in all of its manifestations has increased among the Mexicans in the same ratio as among the Indians."<sup>24</sup> So also at present the American negro, at one time considered immune, suffers severely from this disease.

Dr. J. H. Girdner informs us<sup>25</sup> that in tuberculosis it is change rather than a particular climate that does good. He had spent the first twenty years of his life near Asheville, North Carolina, and could assert positively that the percentage of tuberculosis amongst the inhabitants of that region was fully as great as on Manhattan Island. His father, who had practised medicine in that region, was accustomed to send his tuberculous patients away from home to the seaside. Cases of tuberculosis in the Adirondacks are by no means rare amongst the natives, where poor food and unhygienic surroundings counteract the beneficial influence of the fine climate.

As Dr. Samuel West has wisely observed,<sup>26</sup> "it should be remembered that no climate is proof against the emanations of a filthy soil, either in city or country." And Dr. Robert Barnes, as long ago as in 1855, was a health official for a part of London, and wrote graphically of the dangerous properties of the superficial soil of cities, "the investigation of which," he asserted, "would solve some of the mysteries of high civic mortalities. After solving the problems of the water supply, the problems of the soil will become urgent, and as they too

are solved life-saving will begin in good earnest." After speaking of the so-called "pest stratum," that is surface soil made up mainly of refuse organic matter, excreta, &c., he says, "If this 'pest stratum' could be kept dry, laden as it is with putrescent matter, it would be comparatively harmless. Moisture is a necessary element for the evolution of its pestiferous properties."

That disease is not engendered by a residence on the water itself is rendered very probable by the following facts. I still quote Dr. Barnes: "The population actually living on the Thames, whose every breath is a distillation from its water, is not especially liable to fever, not so much so indeed as the population whose dwellings skirt the banks." Solly<sup>28</sup> says, "Apparently humidity of the air apart from other factors does not in itself produce phthisis. The comparative immunity from consumption among the men of the British navy contrasted with those of the army and the rarity of the disease in many islands, such as the Faroe, the Hebrides, the Shetlands and Iceland show this.

Referring back to the history of the "D" family, with which this paper began, we see that the second, fourth, seventh, and probably the eleventh and twelfth children died with tuberculosis. The fifth contracted the disease and probably still has it. All of those who escaped were males and were, of course, less in the house than their sisters. The oldest one was not born in the infected house, and the younger ones lived in it a very short time. They were all exposed to the same contagion and all lived under the same conditions. It seems to me that it is more reasonable to impute the high mortality of this family to the unsanitary condition of their residence than to any other cause. In other words, I think that the damp and polluted soil over which they dwelt, supplied the necessary factors to make the inroads of the tubercle bacilli upon their bodies efficient. In the case of the "B" family, I think it more reasonable to impute the consumption that attacked Miss M. to her place of residence than to any other cause, and especially will this seem to be true, if after the improved drainage of the house

the other children shall escape tuberculosis, particularly as they have been more or less exposed to infection from their sister.

Not to take up more time, I feel thoroughly convinced that I have proved my case, and that we had better, instead of expecting to annihilate the tubercle bacillus, turn our attention to altering the surroundings of our patients and correcting their vicious methods of life. We must agree with the editor of the *Medical Record* who says, "The causes of the health-giving properties of a change of air are obscure; at any rate up to the present time they have not been explained." No doubt frequently all that is needed to arrest phthisis is that the vicious combination of a damp and polluted soil, want of sunlight and ventilation, together with poor food, and perhaps an unwholesome occupation, should be broken up by the withdrawal of one or more factors. The results of sanatorium treatment have so far been practically identical, so that while a life in Colorado is desirable, it is not necessary, to save at least a third of our incipient cases of phthisis. And while sunlight and life in the open air, pure milk, and a wholesome occupation are necessary and essential, a dry, properly constructed cellar to one's dwelling, which should be built over a pure, well drained, sandy subsoil, is just as essential to the alteration of the predisposition, so that the bacillus of Koch cannot gain a foothold in the human organism, as any of the means named. And it is our duty to insist upon this point over and over again until our patients shall cease to worry about milk and meat, and while not neglecting to burn tuberculous sputa, shall insist in living over properly constructed cellars and away from swamps, cesspools, sluggish streams and all stagnant and unwholesome bodies of water.

Colonel Wingate's remarks on this head are, to my mind, quite applicable, and I do not know that I can close this paper more fitly than by quoting them. He says,<sup>30</sup> "I am inclined to think that the health of the community is more affected by the sanitary state of the soil than by all other influences. If Manhattan Island could be thoroughly drained consumption would undoubtedly diminish."

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  - <sup>17</sup> *Ibid.*, May 5, 1894.
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  - <sup>27</sup> *Ibid.*, January 15, 1898, p. 149.
  - <sup>28</sup> *Therapeutic Gazette*, vol. xiii., p. 588.
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  - <sup>30</sup> *Medical Record*, May 1, 1897, p. 644, *et seq.*
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## Notices of Books, Drugs, Appliances, &c.

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A RESEARCH INTO THE ALLEGED PARASITIC NATURE OF ECZEMA.  
By Morgan Dockrell, M.A., M.D., Physician and Lecturer  
to St. John's Hospital for Diseases of the Skin, &c. Issued  
from the Laboratory, 52, Mortimer Street, W., 1900.

This very artistic pamphlet embodies the author's contribution to the International Medical Congress held in Paris this year. As its title indicates, it is essentially controversial in purpose, and may be said therefore to appeal principally to those who are above all things dermatologists. The subject matter is, nevertheless, one which holds a great and abiding interest for every member of the profession. Eczema, in one form or another, is such a common complaint that, if it be, as alleged, a parasitic, and hence a more or less communicable disease, the duty of warning the public of the necessity for limiting its activities becomes both paramount and urgent. As every imaginable departure from health has now its microbe, either actually or prospectively, the claim to the discovery of yet another would have excited but a languid and somewhat incredulous interest had it emanated from any one of less distinction and authority than Professor Unna, the German dermatologist of European reputation.

It was about the year 1890 that the Hamburg School first put forward the theory of the parasitic nature of eczema. The theory was supported by the supposed discovery of the specific organism which was exhaustively described under the rather grimly prophetic title of "moro-coccus." The task to which Dr. Morgan Dockrell has addressed himself is the demonstration of the fact that the so-called "moro-coccus" is merely an old friend, the staphylococcus, who, under the ægis of a great personality, has succeeded for ten years in masquerading as a specialist in eczema. Needless to say, the author has succeeded *à merveille*. He explodes the theory of the separate existence of the moro-coccus as completely, to use his own analogy, as Huxley's theory of the causation of protoplasm has been exploded. The scope of the inquiry is necessarily extremely limited, and the facts and conclusions are stated with a brevity which is almost laconic. It is illustrated by six coloured plates which are perfect masterpieces of the reproducer's art. If for them alone the pamphlet is a valuable possession. We note with pleasure the statement in the last paragraph that we may expect a further contribution to the study of eczema in the near future. If it is as complete in itself and as artistically presented as that which lies before us, it may be awaited with confidence not unmingled with impatience.

RECORDS FROM GENERAL PRACTICE. Part I. By J. Kingston Barton, M.R.C.P., M.R.C.S., &c. London: Bale, Sons and Danielsson, Ltd., 1900.

A wise, we had almost said a great, man is he who, though a busy general practitioner, keeps a careful record of his cases. The trivial is never so trivial but some later development may invest it with a quite phenomenal importance, and to trust even the best of memories is to confide your treasures to the sands of the seashore. In the narrow grooves of specialism, records are not only easy, they are absolutely imperative, and he who neglects them neglects an integral portion of his daily work. In general practice it is far otherwise. The calls upon the practitioner's time and upon his energies are so great and so uncertain as to excuse any reasonable measure of *laissez faire* in the matter of sustained records. And yet, when we consider the vast amount of priceless material which is thus annually lost to the world, it is difficult to forgive even the busiest for hiding the light of his experience under the bushel of his modesty.

Dr. Kingston Barton finds it necessary to apologise in his preface for "inflicting" his experiences upon the reading public. No such apology is needed; what is needed is more and more of the kind of work which the author puts before his readers, and it is satisfactory to know that at least some of it is to come from the same source. The tendency in all records is to emphasise successes and to say nothing about failures. This is very natural, but it is very unfortunate, for there can be no doubt that want of success is, as a rule, far more instructive than the most brilliant results. The lessons taught in this way are so personal and private that they die with him who has experienced them, greatly to the loss of his professional brethren. Dr. Kingston Barton has in Part I. given us freely of his experiences, and very valuable and highly interesting they are. In future portions we may nevertheless hope to find some confidences of the nature above suggested. If the errors to be recorded in the fulness of his experience appear so flagrant as to raise an honourable blush to the cheek of the recorder, there is always the expedient of "a friend who shall be nameless" to fall back upon.

Greatly as we welcome Dr. Kingston Barton's scheme, and much as we approve of the matter contained in the first instalment, we feel constrained to dispute with him the wisdom of the manner in which some of the work is done. What may be described as the I'm-in-a-hurry-to-catch-the-train style, which prevails in many of the notes, gives an unnecessarily jerky, disjointed sense to the reader. There is very little excuse for omitting prepositions and conjunctions in a printed work. Notes are always notes, and it is unreasonable to expect them

to be other than disjointed, but why add to this unpleasant element by perfectly gratuitous omissions? And why, oh why, that terrible word "obstipation"? It may once have been standard English, but as even old dictionaries declare it to be obsolete, there seems to be no advantage in resuscitating its ungainly corpse. Nowadays it sounds like a combination, effected on the above mentioned catch-the-train principle, between "obstinate" and "constipation." Away with it!

But these are small matters. If the completed work sustains the promise of the first part it will be one for which every reader will be grateful. Especially valuable to the general practitioner would be a continuation on broader lines of the portions entitled respectively "Rarities met with in urine testing" and "On Drugs and Remedies."

**THE JOURNAL OF PHYSICAL THERAPEUTICS.** An International Monthly Review of Treatment by Air, Heat, Light, Electricity, Movement, Diet, Climate, and other Physical and Natural Agents. Price 1s. Vol. i., No. I. Bale, Sons & Danielsson, Ltd., London, October, 1900.

This is the first number of a new journal, the scope of which is sufficiently indicated in its sub-title. That there is room for it even in the much-be-magazined world of medicine we readily believe, and we trust that it may have a vigorous existence. There can be no doubt that the highly valuable therapeutic measures with which it is concerned are, for the most part, a sealed book to the ordinary practitioner, greatly to the disadvantage of the latter's patients. If the journal can succeed in rousing for these measures the interest with which they are regarded on the continent, and thus bring British therapeutics into line with German thought and practice, it will accomplish a work which is thoroughly worthy of accomplishment. The number before us is full of promise. Dr. Hedley writes on "Biological Physics," an article full of the philosophy in thought and lucidity of expression which characterise his work. "A Note on Light Baths," "The Hydro-thermal Treatment of Neurasthenia," "Whooping Cough and Compressed Air," "Monaco," are some of the other articles, which, together with reviews and notes, go to complete a highly interesting and very attractive looking journal. We cordially wish it every success.

**NOBLE SMITH ON THE PARALYTIC DEFORMITIES OF THE LOWER EXTREMITIES.**

The author devotes his whole attention to the treatment of deformities and only briefly refers to the pathology and ætiology. He condemns the cumbrous apparatus devised by instrument makers, and recommends a light form which he

has devised. He is strongly in favour of traction in paralytic cases, and also mentions some good results from the operation of splitting and elongation of the tendon Achilles in cases where there is no spasm of the calf muscles. He also asserts that the division of the tendons during infantile paralysis is followed by restoration of the muscular power. He quotes two cases in support of this view. A few pages are devoted to the so-called scientific use of apparatus, and some useful hints are given. The O'Connor patent extension is referred to, but although the apparatus enables the patient to hide his deformity, the author's experience is not very favourable, since he finds that the last does not give sufficient support in itself and sole irons have to be added.

An appendix contains a report of cases of laminectomy for old fracture of the dorsal spine, and for paralysis due to Potts' disease. There are a number of good illustrations in the work.

**SULPHAQUA: THE HYGIENIC NASCENT SULPHUR - BATH CHARGES.**  
The Seltzogene Patent Charges Company, St. Helens,  
Lancashire.

These charges, which are well prepared, carefully packed and very portable in form, constitute the latest addition to the many articles in the market for "doctoring," as the saying is, of ordinary bath-water. Most of the latter are in the form of fluids, rendering them liable to accident by breakage of the bottle, whereas these charges are compact and unbreakable. When used according to the printed directions, the effect of sulphagua upon the water is to produce sulphur in its nascent form in a very fine state of division, with the evolution of a certain amount of  $\text{SO}_2$ . This does not sound very inviting, but experience shows it to be the reverse of unpleasant. The amount of the gas thus evolved is not large enough to be objectionable, and the resulting unctuosity of the water, recalling in some degree that at Schlangenbad, is highly agreeable. The general effect upon the bath is distinctly sedative, and the ordinary effects of a hot bath appear to be enhanced by the addition of sulphagua. The germicidal properties of nascent sulphur and  $\text{SO}_2$  are too well known to demand repetition here, and the efficacy of the external application of sulphur water and sulphur ointments in many cutaneous affections is familiar to every student. The Seltzogene Company now offer us these benefits in a portable, compact and highly agreeable form, which we have every confidence in recommending to our readers, especially to such as practice at health resorts whose natural waters contain no sulphur. The addition of the charges to simple thermal baths would add a powerful therapeutic weapon to the armamentarium of the spa physician.



## Correspondence.

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### THE HEREDITARY TRANSMISSION OF ACQUIRED IMMUNITY.

TO THE EDITOR OF THE "JOURNAL OF BALNEOLOGY AND CLIMATOLOGY."

DEAR SIR,—In your January number, p. 67, you speak of transmission by heredity of protective toxins. But surely the transmissability of acquired properties remains an open question. If acquired immunities were transmitted there could be no question of the inheritance of acquired characters. Of course, in the case of those diseases where individual susceptibility or predisposition is the principal factor, extensive ravages of a severe form of disease can only take place on virgin soil, that is, where the susceptible element has not previously been thinned or weeded out by natural selection, or rather natural elimination. It is remarkable that, whereas formerly the highest death-rate per million from diphtheria belonged to the country or rural districts, it was next equalled by that of the districts of medium density of population, the maximum death-rate per million now belongs to the large towns and the metropolis. Susceptibility probably depends less than usually imagined upon climate or race. Now, after a century of vaccination, and after Germany has practically extinguished smallpox by these means, has any perceptible increase of cases or degree of vaccinal insusceptibility manifested itself even in those districts where compulsory infantile or school-age vaccination was enforced a generation or two before the law of 1874, or in families where the military or medical profession has been hereditary? The German infants still need to be vaccinated, and sustain an undue share of the very small mortality from variola, owing to the compulsory protection being postponed till the second year in that country.

If the points which I raise have been dealt with already I should be glad of information, and should also be obliged for your drawing public attention thereto.

Yours truly,

CHARLES G. STUART-MONTEATH.

3, Upper Bedford Place, London, W.C.

My authority for the figures about the gradual transference of the highest diphtheria death-rates from the most sparsely distributed populations to those most densely crowded is, I believe, *Public Health*, June, 1899.

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STREET, Alfred F., M.A., M.D., D.P.H., Burghfield, St. Mildred's Road, Westgate-on-Sea.  
SUMPTER, W. J. Ernley, L.R.C.P., Sheringham.  
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SWINHOB, George Rodway, M.R.C.S., L.R.C.P., New Swindon, Wilts.  
  
TAMPLIN, C. H., M.R.C.S., L.R.C.P., 17, Paragon, Ramsgate.  
TAYLOR, James A., M.B., C.M., Dunkeld, N.B.  
TELLET, Frederick S., L.R.C.P.I., Auburn House, Ramsey, Isle-of-Man.  
THOM, Alexander, M.A., M.D., Viewfield, Crieff.  
THOMAS, Abraham, M.B., M.R.C.S., L.R.C.P., 22, North Parade, Aberystwith.  
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- WADE, Charles H., M.A., L.R.C.P., Greenway, Cockington, Torquay.  
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WALSH, Leslie H., M.R.C.S., L.R.C.P., 21, Gay Street, Bath.  
WALTERS, F. Rufenacht, M.D., M.R.C.P., F.R.C.S., 21, Wimpole Street, London, W.  
WARD-HUMPHREYS, G. H., M.R.C.S., L.R.C.P., 7, Cavendish Place, London, W.  
WARNOCK, Hugh Thomas Archibald, L.R.C.P., F.R.C.S.I., Donegal.  
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WATSON, George S., M.R.C.S., L.S.A., 3, Mount Ephraim Road, Tunbridge Wells.  
WATSON, G. T., 19, Cornwallis Gardens, Hastings.  
WEBER, Fred Parkes, M.A., M.D., F.R.C.P., 19, Harley Street, London, W.  
WEIR, Archibald Munday, L.R.C.P. & S., St. Giles, Malvern Link.  
WELLESLEY-GARRETT, A. S., Sillington Lodge, Leamington.  
WHITBY, Charles, M.D., M.B., Clifton Grand Spa, Clifton, Bristol.  
WHITE, Charles Percival, M.A., M.B., M.R.C.S., 22, Cadogan Gardens, S.W.  
WHITE, Edward Alexander, M.A., M.D., Upper Marine Terrace, Margate.  
WILKINSON, John, M.D., M.Ch., D.P.H., "Woodville," Droitwich.  
WILKINSON, Percy J., F.R.C.S.Ed., 15, Banks Road, West Kirby, Cheshire.  
WILLIAMS, Cyril J., L.R.C.P., L.R.C.S., Brookside, Woodhall Spa.  
WILLIAMS, Charles R., M.B., C.M., Ivanhoe Terrace, Ashby-de-la-Zouch.  
WILLIAMS, John Robert, M.B., Bryn Hyfayd, Penmaenmawr.  
WILLIAMS, Leonard, M.B., C.M., 8, York Street, Portman Square, London, W.  
WILLIAMS, Neville, M.A., M.D., Sydenham House, Harrogate.  
WILLIAMS, Owen, L.R.C.P., L.R.C.S., Bronheulog, Burry Port, Wales.  
WILLS, Jos. P. B., M.D., M.R.C.S., Bexhill-on-Sea.  
WISE, A. T. Tucker, Montreux.  
WOHLMANN, A., M.D., 9, Gay Street, Bath.  
WOODS, J. F., M.D., 29, Queen Anne Street, London, W.  
WYER, Otho, M.D., M.R.C.S., Epperston House, The Avenue Road, Leamington.

\*YOUNG, Major L. Tarleton, M.D., Indian Medical Service.

YOUNGER, Edward Geo., M.D., M.R.C.P., 19, Mecklenburgh Square, London, W.C.

# NAMES OF TOWNS WHERE FELLOWS RESIDE.

## ENGLAND.

ASHBY-DE-LA-ZOUCH. — Williams  
Chas. R.

## BATH.

Bannatyne, Gilbert A.  
Bayliss, R. A.  
Bowker, George.  
Cowan, Frederick.  
Ellis, W. McD.  
Kerr, J. G. Douglas.  
King, Preston.  
Lace, Frederick.  
Lowe, T. Pagan.  
Mackenzie, Alex. L.  
Walsh, Leslie H.  
Wohlmann, A.

BEXHILL-ON-SEA. — Wills, Joseph  
P. B.

BIRCHINGTON. — Harris, James S.

## BIRMINGHAM.

Foster, Sir Walter (Hon.)  
Griffiths, Chas. Thos.

BLACKBURN. — Rhodes, T.

## BLACKPOOL.

Kingsbury, Geo. C.  
Molloy, Leonard.

## BOURNEMOUTH.

Alderson, F. H.  
Gardner, Wm. Thomas.  
Greves, E. Hyla.  
Harsant, Joseph George.  
Hosker, J.  
Lys, Henry Crabham.  
Muspratt, Chas. Drummond.  
Nunn, Philip W. G.  
Pott, Francis H.  
Scott, Thos. B.  
Snow, William V.

BRADFORD. — Campbell, Henry  
Johnstone.

## BRIGHTON.

Blaker, Walter C.  
Furner, Willoughby.  
Garrett, H. E.  
Goff, Bruce E.  
Griffin, Wm. Watson.  
Hobhouse, Edmund.  
Noble, Stanley.

BOGNOR. — Rawlinson, Frederick J.

BRIXTON. — Elliott, George B.

BURNHAM. — Berry, Frederick  
Charles.

## BUXTON.

Armstrong, Wm.  
Bennet, R. O. Gifford.  
Bennet, Chas. J.  
Braithwaite, John.  
Hannah, William T.  
Lorimer, George.  
Thompson, G. H.

CAMBRIDGE. — Allbutt, Prof. Clif-  
ford (Hon.)

CAISTOR-ON-SEA. — Case, William.

## CHELTENHAM.

Cardew, G. A.  
Lawrence, H. Cripps.  
Pruen, Septimus Tristram.

CLACTON-ON-SEA. — Nourse, C. M.  
Stuart.

## CLIFTON.

Clarke, J. Michell.  
Whitby, Chas.

## CROMER.

Musgrave, C. B. Thos.

CROWBOROUGH. — Newell, Percy.

DEAL. — Lyddon, Richard.

DOVER. — Parsons, Charles.

**DROITWICH.**

Corbett, Thomas.  
Cuthbertson, J. M.  
Foulds, Francis Henry.  
Jones, H. Shirley.  
Roden, Percy A.  
Wilkinson, John.

**EASTBOURNE.**

Barnes, Robert.  
Daly, W. J.  
Habgood, Henry.  
Macqueen, Thomas.  
Plant, James Robert.

**FALMOUTH.**

Bullmore, W. King.  
Knuthsen, L. F. M.  
\*Young, Major L. Tarleton.

**FELIXSTOWE.**—Havell, C. G.**FINCHLEY.**—Bangay, Richard.**FOLKESTONE.**

Barrett, W. P.  
Dodd, Percy.  
Eastes, Thomas.  
Larking, Arthur E.  
Latter, Cecil.  
Lewis, Percy George.  
Tyson, W. J.  
Wainwright, Lennox.

**FRIMLEY GREEN (Surrey).**—Haviland, Alfred.**GORLESTON.** — Gilmour, Graham  
Percy.**GRANGE-OVER-SANDS.**

Beardsley, Amos.  
Beardsley, Richard Henry.

**GREAT YARMOUTH.**—Moxon, A.  
H.**HARROGATE.**

Bain, William.  
Black, J. Gordon.  
Gibson, Charles.  
Hind, Harry.  
Hobson, Lewis John.  
Mouillot, F. A.  
Myrtle, Andrew S.  
Myrtle, James A.

Oliver, George.  
Ozanne, Frederick N.  
Smith, Francis W.  
Solly, Ernest.  
Walker, A. W. Hinsley.  
Williams, Neville.

**HASLEMERE.**—Hutchinson, Roger  
Jackson.**HASTINGS.**

Inglis, John.  
Watson, George Trustram.

**HERNE BAY.** — Bowes, Charles  
Keswick.**HODDESDON.**—Love, William.**HOGSTHORPE.**—Spilsbury, Francis  
James.**HOYLAKE.**—McAulay, Matthew.**HYTHE (Kent).**—Hackney, John.**ILFORD.**—Houchin, E. K.**ILFRACOMBE.**

Gardner, J. Twiname.  
Payne, William A.  
Toller, C. W. E.

**ILKLEY.**

Bampton, A. H.  
Johnstone, Thomas.

**LEAMINGTON.**

Eardley-Wilmot, R.  
Thursfield, Thos. W.  
Wellesley-Garrett, A. S.  
Wyer, Otho.

**LIMPLEY STOKE (Bath).**—Drake,  
Thos. Geo.**LINCOLN.**—Lowe, Geo. May.**LIVERPOOL.** — Bickersteth, Ed-  
ward Robert (Hon.)**LONDON.**

Abraham, Phineas S.  
Achar, Alexander (Maryle-  
bone, W.)  
Allen, W. Hamilton (Stanmore).  
Ball, James Barry.  
Baynes, Donald.  
Bidwell, Leonard.  
Brown, F. Gordon.  
Brown, George.  
Bruce, J. Mitchell (Hon.)  
Burnet, Robert William.  
Campbell, Harry.

Cantlie, James.  
 Cathcart, George C.  
 Chaldecott, John Henry (Hampstead, N.W.)  
 Clarke, Ernest.  
 Clippingdale, S. D. (Kensington).  
 Daniel, R. N. (S. Kensington).  
 Dockrell, Morgan.  
 Dodsworth, Frederick C. (Chiswick).  
 Dowse, Thos. Stretch.  
 Ewart, William.  
 Fayrer, Sir Joseph, Bart. (Hon.)  
 Felkin, Robert William.  
 Ferguson, G. Gunnis (West Hampstead).  
 Foster, Sir Walter (Hon.)  
 Freyer, P. Johnston.  
 Gage-Brown, Charles Herbert (Belgravia, S.W.)  
 Garrod, Sir Alfred (Hon.)  
 Gordon, H. Laing (Honor Oak, S.E.)  
 Harbord, Augustus (Bloomsbury, W.C.)  
 \*Hare, F. E.  
 Hedley, W. S.  
 Hillyer, William H. (Streatham, S.W.)  
 Johnston, George F.  
 Jones, Montagu Handfield.  
 Keetley, C. R. B.  
 Kingscote, Ernest.  
 Knott, William (Oxford Circus, W.)  
 Lee, Robert (West Kensington).  
 Luff, Arthur Pearson.  
 Lyon, T. Glover (Victoria, S.W.)  
 Macfarlane, Alexander R. (Chelsea, S.W.)  
 McCann, Frederick John.  
 McClure, Henry.  
 More-Madden, Richard.  
 Morison, Alexander.  
 Murray, J. Ivor.  
 Ord, W. Miller (Hon.)  
 Orwin, Arthur W.  
 Poore, Vivian (Hon.)  
 Pope, H. Campbell (Shepherd's Bush, W.)

Pope, Percy.  
 Powell, Sir Richard Douglas, Bart.  
 Pritchard, Owen.  
 Roberts, Francis H. (Forest Hill, S.E.)  
 Roberts, Frederick T.  
 Ryan, John.  
 Sansom, Arthur.  
 Scott, John Walter (Tulse Hill, S.W.)  
 Shaw-Mackenzie, J. A.  
 Sibley, W. Knowsley.  
 Sieveking, Sir Edward H.  
 Snape, Ernest (Marylebone, W.)  
 Spicer, Scanes.  
 Startin, James.  
 Stephenson, Sydney.  
 Stiell, Gavin (Clapham Common, S.W.)  
 Stivens, B. H. Lyne.  
 Stocker, W. Woodley (Willesden Green, N.W.)  
 Sunderland, Septimus.  
 Thomas, Arthur W. (Wandsworth Common, S.W.)  
 Thompson, E. Symes.  
 Thomson, St. Clair.  
 Thorne-Thorne, Leslie.  
 Thorne, W. Bezly.  
 Tubby, A. H.  
 Underhill, T. H. (Herne Hill, S.E.)  
 Walker, H. Roe.  
 Walters, F. Rufenacht.  
 Ward-Humphreys, G. H.  
 Weber, Fred Parkes.  
 Weber, Hermann (Hon.)  
 White, Charles Percival.  
 Williams, Leonard.  
 Williams, Charles Theodore (Hon.)  
 Woods, J. F.  
 Yeo, I. Burney (Hon.)  
 Younger, Edward George (Bloomsbury, W.C.)  
 LOUTH.—Gresswell, Albert.  
 LOWESTOFT.—Marshall, Augustine.  
 MABLETHORPE.—Iredale, J.



**MALVERN.**

Brockatt, Andrew A.  
 East, Charles Henry.  
 Fergusson, J. Campbell.  
 Haynes, Stanley.  
 Holbeche, Arthur Oliver.

**MALVERN LINK.**—Weir, Archibald  
 Munday.

**MANCHESTER.**—Roberts, D. Lloyd  
 (Hon.)

**MARGATE.**

Crook, H. Evelyn.  
 Thomson, Robert.  
 White, Edward Alexander.

**MATLOCK.**

Moxon, William.  
 Sharpe, William Cecil.

**NANTWICH.**—Munro, Seymour.

**NEWQUAY.**—Hardwick, Arthur.

**PAIGNTON.**—Cosens, C. Hyde.

**PARKSTONE.**—Milner, Vincent.

**PLYMOUTH.**

Parsloe, Henry.  
 Pearse, William H.

**POTTERS BAR.**—Waddell, Arthur  
 R.

**RAMSGATE.**

Berry, John Bourne.  
 Tamplin, C. H.

**RICKMANSWORTH.**—Branthwaite,  
 R. Welsh.

**SCARBOROUGH.**

Leigh, John Dickinson.  
 Snell, Sidney H.

**SEAFORD.**—Morgan, William  
 Pringle.

**SEVENOAKS.**—Wagstaffe, William  
 Warwick.

**SHERINGHAM.**—Sumpter, W. J.  
 Ernley.

**SIDMOUTH.**

Leon, George A.  
 Mackindoe, Alexander.

**SILLOTH.**—Crerar, Charles.

**SOUTHAMPTON.**—Eliot, Ernest  
 Frederick.

**SOUTHWOLD.**—Herbert, Alf.  
 Corbyn.

**ST. LEONARDS-ON-SEA.**  
 Bagshawe, Frederick.  
 Inglis, Arthur Stephen.

**ST. NEOTS.**—Crosse, Edward J.

**SURBITON (Surrey).**  
 Merrick, Horace T. N.  
 Merrick, Robert Warren.

**SWINDON.**—Swinhoe, George  
 Rodway.

**TICEHURST.**—Newington, H.  
 Hayes.

**TORQUAY.**

Crowdy, F. D.  
 Cumming, G. W. Hamilton.  
 Eales, G. Y.  
 Odell, William.  
 Pollard, Reginald.  
 Wade, Charles H.

**TULSE HILL, S.W.**—Scott, John  
 Walter.

**TUNBRIDGE WELLS.**

Gilbert, E. G.  
 Pardington, Geo. Lucas.  
 Ranking, John E.  
 Watson, Chas. Robert.  
 Watson, Geo. S.

**UXBRIDGE.**—Minter, Leonard  
 John.

**WESTGATE-ON-SEA.**—Street,  
 Alfred F.

**WEST KIRBY.**—Wilkinson, Percy  
 J.

**WESTON-SUPER-MARE.**—Martin,  
 Ed. Fuller.

**WEYMOUTH.**

Browning, Benjamin.

WOODHALL SPA.  
Cuffe, Edward Meade.  
Cuffe, Robert.  
Williams, Cyril John.  
WORTHING.—Simpson, W. S.

ISLE OF WIGHT.

BEMBRIDGE. — Pain, Tertius  
D'Oyley.  
CARISBROOKE.—Groves, Joseph.  
RYDE.—Davey, Alexander G.  
SANDOWN.—Brodie, F. Cardew.  
TOTLAND BAY.—Hands, Chas. H.

WALES.

ABERDOVEY. — Bonner, Thos.  
Irvine.  
ABERYSTWITH. — Thomas, Abraham.  
BURRY PORT.—Williams, Owen.  
CAERGWILE.—Johnston, W. A.  
LLANDRINDOD WELLS.  
Davies, W. Bowen.  
Evans, John Morgan.  
Greenway, Alfred G.  
\*Macfie, Ronald Campbell.  
LLANGAMMARCH WELLS.  
Jones, Wm. Black.  
LLANDUDNO.—Nicol, James.  
PENMAENMAWR.—Williams, John  
Robert.  
PORT TALBOT.—Davies, J. H.

SCOTLAND.

BRIDGE OF ALLAN.  
\*Fraser, John Hosack.  
Haldane, William.  
CALLANDER.—McLaren, Hugh.  
CRIEFF.—Thom, Alexander.  
DUNKELD.—Taylor, James A.  
EDINBURGH.  
Affleck, Jas. O.  
Brown, J. Murdoch.  
Caverhill, T. F. S.  
Croom, J. Halliday.

Grey, Harry (For letters in  
summer).  
James, Alex.  
Muirhead, Claude.  
Russell, Wm.  
Watson, D. Chalmers.

GLASGOW.—Alexander, John.  
GOLSPIE.—Simpson, J. B.  
MOFFAT.—Huskie, David.  
NAIRN.  
Cruikshank, Brodie.  
Sclanders, Alex.

OBAN.  
Baily, Edwin.  
McCalmen, Dove.

ROTHESAY.  
Hall, Andrew J. .  
Marshall, J. N.

STRATHPEFFER.  
Bruce, William.  
Duncan, E. H.  
Fox, R. Fortescue.  
Fox, J. Tregelles.

ST. ANDREWS.—Huntington, Wm.

IRELAND.

BELFAST.—Byers, Prof. John W.  
(Hon.)  
BUNDORAN.—Creighton, Robt. H.  
DONEGAL.—Warnock, Hugh Thos.  
DUBLIN.—Banks, Sir John (Hon.)  
KINGSTOWN.—Flinn, D. Edgar.  
LISDOONVARNA.—Westropp, W.  
Stackpoole.  
QUEENSTOWN.—Townsend, R. H.  
ST. ANN'S HILL.—Bennett, Ar-  
thur Geo.  
VALENCIA ISLAND.—Letters, Pa-  
trick.

ISLE OF MAN.

DOUGLAS.  
Mackenzie, Thomas.  
RAMSEY.—Tellett, Frederick.

**CHANNEL ISLANDS.**

ALDERNEY.—Livesay, Edgar Wm.  
GUERNSEY.—Merrall, H.

**FELLOWS RESIDING  
ABROAD.**

AIKEN (S. Carolina).—McGahan,  
Chas. F.  
AIX LES BAINS.  
Forestier, Henri.  
Rendall, Stanley Morton (In  
Summer).  
ARMIDALE (N. S. Wales).—Little,  
Joseph Henry.  
ASSOUAN (Egypt).—Canney, H.  
E. Leigh.  
BADEN-BADEN (Germany).—Gil-  
bert, W. H.  
BORDIGHERA (Italy). — Danvers,  
Herbert.  
CAIRO (Egypt).—Sandwith, Flem-  
ming Mant.  
CAPE COLONY.—Guillemard, B. J.  
CAPE TOWN.—Scholtz, Wm. C.  
DURBAN (Natal).  
Birtwell, Daniel.  
Prince, J. Perrott.  
GIBRALTAR.—Turner, William.

GERMANY.—Marcus, Tigismund  
Ph.

HELOUAN (Egypt).—May, William  
Page (Winter).

LAUSANNE (Switzerland).—Harpe  
Eugene de la (Corr.).

MADEIRA. — Krohn, Ronald Ed-  
ward Stewart.

MAGGIORE. — Grey, Harry (In  
Spring and Autumn).

MENTONE.  
Rendall, Stanley Morton (In  
Winter).

Campbell, J. William.

MONTREUX (Switzerland).—Wise,  
Alfred Thos. Tucker.

NAPLES (Italy).—Gairdner, Mat-  
thew Wm.

NEUENAUH (Germany).—Grübe,  
Karl (Corr.).

NICE (France).

Gilchrist, Alexander Wm.

ODTSHOORN (South Africa).—  
Russell, George.

SAN REMO (Italy).

Foster, Geo. Michael.

Grey, Harry (In Winter).

ST. MORITZ (Switzerland).—Hol-  
land, James Frank.

SYDNEY (N. S. W.).—Stewart, W.

VICTORIA (Australia). — Naylor,  
Rupert Geo.





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